
**Final Settlement Report of the Multan
District.**



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FINAL SETTLEMENT REPORT

OF THE

MULTAN DISTRICT.

BY

H. W. EMERSON, Esq., I.C.S.,

Settlement Officer.



Lahore :

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB

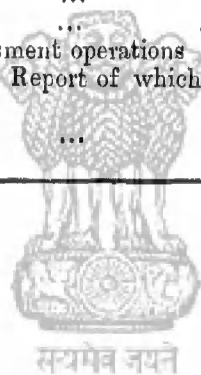
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FINAL SETTLEMENT REPORT OF THE MULTAN DISTRICT.

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No. 31116.

FROM

C. M. KING, Esq., C.S.I., C.I.E., I.C.S.,

*Financial Commissioner and Secretary to
Government, Punjab, Revenue Department,*

TO

THE SENIOR SECRETARY TO THE FINANCIAL
COMMISSIONERS, PUNJAB.

Dated 9th December 1922.

Revenue

Revenue

SIR,

Order of the Governor in Council.

I AM directed to acknowledge the receipt of your letter No. 91—811-4, dated the 11th February 1922, forwarding the Settlement Report of the Multan District with the review of the Commissioner and conveying the remarks of the Financial Commissioner thereon.

2. The conspicuous feature of the district from the agricultural point of view is its meagre rainfall and consequent dependence on irrigation from wells, canals and river floods, the most common form being a combination of irrigation from wells and canals. Half of the cultivated area is so irrigated. The canals only flow for a portion of the year, although the Sidhnai has the advantage of a weir and of supplies from the Triple Project. Generally speaking, the autumn harvest is raised with the aid of canal water, while the spring harvest is sown with canal irrigation and matured by watering from wells. This feature of the agriculture dominates the assessment problem. The solution arrived at during last Settlement has proved satisfactory and the system then adopted has been maintained in the present Settlement with little alteration. Briefly put, the system is one of a fixed lump sum assessment on wells combined with a fluctuating assessment on all crops except those that are purely well-irrigated. It provides automatic relief to the revenue-payer in bad seasons and at the same time secures to the State a share in the benefit of extended cultivation without penalising the enterprise of the cultivator.

3. That the late Settlement has worked well and has not in any way retarded development will be evident from the fact that the cultivated area has increased by 23 per cent. and the harvested area by over 25 per cent., while the number of wells existing has risen by 37 per cent. Agricultural stock have increased by 13 per cent., and the statistics regarding sales and mortgages of land are satisfactory. The area now under mortgage is nearly 23,000 acres less than at the previous settlement when the transfer of land from the hands of hereditary cultivators to the trading classes gave rise to considerable anxiety.

4. The supply of the Chenab Inundation Canals has been adversely affected by the Triple Project, but on the other hand great improvements have been made in the amalgamation of separate heads, the replacement of zamindari channels by Government distributaries, in outlets and in the system of distribution. On the Sutlej canals too, except in the Mailsi tahsil, extensive re-organization has been effected with the object of increasing their efficiency.

As the Financial Commissioners have noted, a Committee of the Punjab Legislative Council is now investigating complaints as to the deterioration of the water supply in the canals.

5. The late Settlement, when it was imposed, was expected to bring in a revenue of nearly 13½ lakhs. Owing to the expansion of cultivation the average revenue of the years which have been selected as the basis of the present settlement would have been nearly 16½ lakhs, but for the remissions granted to wells and other similar remissions. The actual collections during that period averaged 14¾ lakhs. The new assessment now sanctioned amounts to Rs. 21¾ lakhs, but of this sum over 2 lakhs will be remitted on protective leases for wells. The new assessment involves an enhancement of 32·8 per cent. on the old. The proportion of the half-net assets which is being taken, cannot be clearly stated as the assessment includes occupiers' rates in the Sidhnai Circles. Excluding this fact from consideration, the proportion is 72 per cent. The Financial Commissioner has noted that 23 seers per acre of matured wheat would suffice to pay the entire demand at the prices prevailing when his review was written. In the circumstances it is clearly not a serious burden on the landowner. The distribution of the fixed portion of the revenue over wells has been done with great care and judgment.

6. The new rates other than canal rates and the new fixed assessments will be maintained for 30 years with effect from the date of their introduction, and this guarantee will cover the case of the fixed assessments on those wells which may hereafter get perennial canal irrigation. The fluctuating canal rates will, however, be subject to modification if this be found advisable on the introduction of perennial irrigation. On the Sidhnai Canal, also, the fluctuating assessment of canal irrigated lands will be subject to modification and if necessary to the addition of occupiers' rates if perennial irrigation is ever introduced.

7. The Governor in Council concurs in the view expressed by the Commissioner and the Financial Commissioner that Mr. Emerson and his staff deserve great credit for completing the re-settlement, including the revision of the maps and records of five tahsils, within 3½ years and at a cost which does not exceed the extra revenue of one year. The Settlement Officer was ably assisted by Paudit Nand Lal Tikku, who assessed the Lodhran Tahsil and by Lala Diwan Chand. Mr. Emerson's own work has been conspicuously good throughout and proves him to be an officer of exceptional capacity, tact and energy.

I have, etc.,

C. M. KING,

*Financial Commissioner and Secretary to Government Punjab,
Revenue Department.*

No. 91-811-4.

FINANCIAL COMMISSIONERS' OFFICE :

Lahore, dated 11th February 1922.

FROM

M. S. LEIGH, Esq., O.B.E., I.C.S.,

To

Senior Secretary to the Financial Commissioners, Punjab,

THE REVENUE SECRETARY TO GOVERNMENT, PUNJAB.

Sir Patrick Fagan, K.C.I.E., C.S.I., I.C.S.

SIR,

I AM directed to forward Mr. Emerson's Final Report on the Settlement of the Multan District together with the Commissioner's review, and to submit the following remarks of the Financial Commissioner.

2. The Multan district stands first among the districts of the Punjab in respect of total area, and fifth in respect of cultivated area. The present report, which is not concerned with so much of the newly formed Khanewal Tahsil as is irrigated by the Lower Bari Doab Canal, covers 4,820 square miles, and 1,357 estates.

The district is wedge-shaped, and lies between the Chenab and Sutlej Rivers, extending from a point near their confluence, about 120 miles in an east by north-east direction, and includes also the apex of the Rechna Doab. The tahsil boundaries are arbitrary, and the soil is practically uniform: in fact the only physical distinctions are those of distance from the rivers, with consequent variations of the depth to water, which mark the uplands (Rawa), the river-valleys (Hithar) and the belts between them (Utar). The Assessment Circles in each tahsil are named accordingly, the only complications of this simple arrangement consisting of (1) the Sidhnai Circles in the Kabirwala and Multan Tahsils, and the Hajiwah Circle of the Mailsi Tahsil, irrigated by the canals of those names, and (2) the Atrai—a small circle of seven suburban estates round Multan City.

The soil classification merely distinguishes lands receiving moisture from wells, canals, floods or more than one of these, from each other and from rainland. The annual average rainfall ranges from $6\frac{1}{2}$ inches in Mailsi to $4\frac{1}{2}$ in Shujabad, the Sutlej valley getting more than the Chenab, and the east getting more than the west. About a quarter of the total fall occurs in the cold weather. It is hardly surprising that dry cultivation should be scarcely attempted outside the Mailsi Tahsil: agriculture would be impossible but for floods and irrigation, and in this respect the inundation canals are a fundamental factor in the agricultural prosperity of the district. The Ravi floods are of excellent quality but restricted scope: the Sutlej is of moderate value in both respects: the Chenab benefits a wide area.

Of the canal systems, the weir-controlled Sidhnai, with its comparatively poor relations—the Abdul Hakim, Fazl Shah and Kuranga—has some of the merits of a perennial canal, and commands 311,000 acres in Kabirwala and Multan Tahsils, 181,000 acres of this receiving extra assistance from wells. The Chenab inundation system commands 138,000 acres in Kabirwala and Multan Tahsils, including 119,000 helped by wells. The Sutlej inundation system, including one private and one semi-private canal,

commands 380,000 acres in Mailsi and Lodhran, of which 253,000 acres are also served by wells. In Shujabad, 110,000 acres are irrigated from the two inundation systems, mostly the Chenab; 97,000 acres being aided by wells. Paragraph 4(d) of the Report brings out clearly the fundamental importance of wells as an adjunct to the canals. In view of the paucity and caprice of the rainfall, it is fortunate for the district that the wells hardly ever fail. In a normal year, it is only in the Rawa Circles that pure *chahi* cultivation is necessary.

Of the total area, 39 per cent. is cultivated as against less than 32 per cent. at last settlement. Given irrigation, there is still ample scope for development. Of the cultivated area 74 per cent. is matured on an annual average, as against 73 per cent. at Settlement. Of the crops, 37 per cent. are *chahi-nahri*; 36 per cent. *nahri*; 12 per cent. *sailab*; 11 per cent. *chahi*; 3 per cent. *chahi-sailab* and less than 1 per cent. *barani*.

Two-thirds of the crops are grown in the *rabi*. The main staples are wheat (14 per cent.), *jowar* (7 per cent.), cotton, oilseeds and turnips (6 per cent.) *bajra* (5 per cent.), gram and peas (4 per cent.), rice (2 per cent.), and indigo (1 per cent.).

According to the recent census, the population (excluding the Khanewal Tahsil) is 763,133, giving 498 persons to the square mile of cultivation: in no part of the district is pressure upon the soil at all heavy. The proprietary body consists in the main of Muhammadan tribes more conspicuous for social importance than for agricultural efficiency. Hindu non-agriculturists own about a quarter of the cultivated area, and appear from paragraph 8 of the report to be much less prevalent here than in many parts of the Punjab. Holdings are ample and range from 6 cultivated acres in Shujabad to 19 in Mailsi. The owners only cultivate 26 per cent. of the cultivated area themselves, and less than 3 per cent. is held by occupancy tenants: tenants-at-will cultivate 71 per cent., almost all of them paying rent in kind. These tenants in general are but poor cultivators: their hearts are still given to their cattle rather than to their crops, and the coming of the Lower Bari Doab Canal has diminished both their numbers and their efficiency in the uncommanded uplands. But the Settlement Officer sees signs of improvement on the whole having taken place among both land-lords and tenants since Settlement, and grounds for anticipating further improvement in the future. Apart from Railways, communications are still primitive, and the camel is the mainstay of transport.

The district has little to rely on except its land and grants in the colonies. In the recent past, temporary cultivation on the Lower Bari Doab Canal has been a source of considerable profit. Military and other Government Service is far from popular: even at the height of the recruiting campaign, the district sent few men to the army, and still fewer stayed in it more than a few weeks. On the whole the Assessment Reports give an impression of increasing economic independence, which will become very much more marked and durable when the inundation canals are replaced by the Sutlej Valley Canal, recently sanctioned, and the Haveli Project, still in distance prospect.

3. Under Sikh rule, this district was fortunate in being assessed on the appropriately elastic system adopted by Diwan Sawan Mall. The summary Settlements and the first regular Settlement failed to retain the elasticity, which distinguished that system and which the natural features of the country demand: even the first revised Settlement failed, through over-alaboration, to achieve its aim in this direction on canal-irrigated, though more successful on *sailab* lands. The result of these various Settlements was to raise the revenue from Rs. 5,94,000 to Rs. 6,85,000. The second revised Settlement went as far in the direction of elasticity as was compatible with practical considerations, and has been accepted as a classic for the South-West Punjab. Its various features are clearly explained in paragraphs 16 and 17 of this report: the most important are:—(1) the adoption of standard fluctuating rates by circles and soils leviable on mature crops only

(2) the adjustment of the demand to the varying assets-values of individual estates by means of fixed well-assessments payable in addition to the fluctuating assessment, (3) the remission of the fixed assessment when a well ceased to work, (4) the substitution of occupiers' rates for forced labour on the canals. The half-nett assets were carefully calculated, with liberal allowances for the costs of cultivation, so that it was possible to assess up to 90 per cent. of the result as land-revenue. The estimated demand resulting from an application of the new rates to the average harvest on which the calculations were based, came to Rs. 13,31,000. The actual demand for Mr. Emerson's selected period was Rs. 14,70,611, and he shows in paragraph 19 of his report that, if there had been no temporary remissions on new wells and leases, the demand would have been Rs. 16,39,310, representing a rise of 23 per cent. in the demand, due to increase and improvement in cultivation. The system adopted soon became popular, and the Settlement has worked extremely well.

4. Since Settlement, the cultivated area has increased by 23 per cent. and the matured areas by 25 per cent. In fact the actual gain has been greater than this last figure indicates, since of the standard remissions for failure is easier now than it was at Settlement by a proportion not much less than 40 per cent. The main changes have been as follows :—

Soil.	INCREASE OR DECREASE PER CENT.	
	Cultivated.	Matured.
Chahi-nahri	51	85
Nahri	—8	8
	30	37
Chahi	—32	12
Chahi-sailab	37	—11
	0	6

The gain in the total number of wells existing and in the average number of wells at work has been 37 and 42 per cent. respectively. It is noticeable that the improvement shown by the above figures has taken place in the most secure soils, the *chahi-nahri* and the *chahi-sailab*, a result due of course to the construction of new wells. The mutual proportions of the crops grown have not much changed, but there has been some falling off in cotton and indigo.

The effect of the perennial canals which have been opened in other parts of the Punjab upon the efficiency of the local systems is at present hard to gauge: in the case of the Sidhnai Canals, the Settlement Officer and the Chief Engineer are agreed that there has been no appreciable harm done by the opening of the Lower Bari Doab Canal. On the Chenab Inundation system, the Settlement Officer thinks there has been some loss, but the recorded dates of opening and closing and the areas irrigated before and after the Triple Project came into operation do not suggest serious differences: in any case such differences as may have occurred are less than those anticipated when the Triple Project was under consideration, while a good deal of attention has been given to improvement of distribution. The inundation season on the Sutlej seems, for some reason, to occur later now than at Settlement, but is of much the same duration, while here again extensive improvements in distribution have been effected in the Lodhran and Shujabad Tahsils. The facts relating to an alleged general deterioration of canal supply and its causes, if it exists, are now being investigated by a Committee of the Legislative Council.

Agricultural stock have increased by 13 per cent., the gain in cow-buffaloes being specially noteworthy. The figures in the report however do not allow for the recent drought. Population has increased more rapidly than cultivation: at last Settlement there were only 450 persons per square mile of cultivation.

Here, as elsewhere, the Alienation of Land Act came just in time to avert the expropriation of the peasants. Of the area sold since Settlement (which amounts to more than 10 per cent. of the cultivated area) it is reported that little has passed out of the hands of the Agriculturists. The cultivated area under mortgage has dropped from 137,504 to 114,642 acres, and the percentage of cultivated area from 14 to 9: these figures in themselves clearly indicate that there cannot be any valid basis for haphazard allegations of acute agricultural depression in this district. Moreover much of the existing mortgage is of the restricted periodic form introduced by the Act, and this has led in two tahsils to a lowering of the mortgage debt per acre. Sale prices, on the other hand, have more than doubled in all tahsils, and in the Multan Tahsil, are nearly four times as high as at Settlement. Rents in kind appear to have risen, generally by way of pickings from the joint heap, but in some cases by an increase in the landlord's recorded share. There has been a slight increase in the proportion cultivated by owners.

Communications can hardly, at the present moment, be said to be much better than they were at Settlement, except for the Khanewal-Lodhran Railway Chord: the Sutlej Valley Line was one of the war's sacrifices, and has not yet been restored. The camels of the district also paid heavy toll to the war, as the figures in paragraph 6 show.

The effective rise in prices up to 1916-17 is estimated by the Settlement Officer, after allowing for the increased costs of cultivation borne by the landlord, to range between 23 and 42 per cent. The commutation prices used by him are about 37 per cent. in advance of those used at last settlement; in the light of those now current, their moderation cannot be disputed.

5. The period selected as the basis of the Produce Estimate was in some respects, as shown in paragraph 36, not strictly normal, but it may be accepted without hesitation for a practically fluctuating system. The prices assumed have been discussed above. The Settlement Officer considers that his assumed rates of yield, though apparently higher than those of last settlement are in effect more lenient, owing to the change in standard of allowance for failed crops. The landlord's share of the produce has been worked out on the only possible principle, applicable to the somewhat complicated conditions mentioned in paragraph 39 (b) of the report, and it has been adjusted to allow for various side-transactions between him and the tenant. Ample allowances have been made for menials' dues, fodder concessions, and other costs of cultivation borne by the landlord, of which silt clearance is the most important item.

The resulting half-nett assets amount to Rs. 30,06,000,* exclusive of the income from dates and waste-lands, and except in the Atrai Circle, from Gardens. This gives an incidence of Rs. 2-8-0 per acre cultivated, as against Rs. 1-7-3 at last Settlement, an increase of 72 per cent. The half nett assets at last Settlement were less than Rs. 14,59,000 (which figure includes the present Khanewal Tahsil), so the rise in assets has been at least 107 per cent. Cash rents are too few to afford a check of any great value on the produce estimate. The rise in sale prices noticed above goes some way to show that the rise of 107 per cent. is within the facts.

6. The system which has worked so well in the past has been retained with practically no variation; the result is clearly indicated in paragraphs 43-44 of the Report. As pointed out by the Commissioner, the general effect of the changes made

* The excess of Rs. 10,000 noted in paragraph 14 of the Financial Commissioner's review of the Kafirwah Assessment Report has been repeated.

is to add somewhat to the demand. The financial results are well brought out on page 26 of the Report. The percentage of half-nett assets taken is not really as high as the figure 72 suggests, as the new demand, like the old, includes occupiers' rates in the Sidhnai Circles. If allowance is made for this, roughly speaking we may say that one-third of the nett-assets are being taken as land revenue.

The incidence per acre cultivated and matured and the share of gross produce taken show the following range and average :—

			INCIDENCE PER ACRE.						Percentage of gross produce taken.
			Cultivated.			Matured.			
Rs.	A.	P.	Rs.	A.	P.				
Multan	2	2	10	2	12	3	15.3
Bhujabad	1	14	9	2	4	10	13.4
Lodhran	1	4	11	1	12	7	10.9
Kahirwala	2	10	4	3	8	5	18.8
Mailsi	0	15	4	1	8	3	10.2
District	1	12	10	2	6	10	14.05

With wheat at its present price the landlord need only sell 23 seers of it off every acre of matured wheat to pay his revenue for the whole year on his whole holding. The average increase in demand works out to less than 33 per cent. as compared with a theoretical rise of 71 per cent. on the basis of matured area and prices alone.

In the light of these considerations, it cannot be seriously maintained that the new assessment is in any way other than extremely moderate, and this was in fact generally recognised. The objections to which the Commissioner alludes in paragraph 12 of his note were, it is believed, really designed to influence the new Legislature in the direction of pressing for an alteration in favour of the landlord of the well-established principles of land revenue theory and practice followed in this Province.

7. In paragraphs 49 and 50 of the Report, Mr. Emerson sets forth clearly the manner in which the new demand has been distributed over circles, estates and holdings. The Financial Commissioner who has carefully studied the detailed village statements, fully agrees with the views expressed by the Commissioner in paragraphs 8 and 9 of his note. The fixing of the well-assessments demanded great labour and judgment on the part of the Settlement Officer and his Assistants, and clearly received them.

8. Chapter III of the report gives a lucid account of that very important part of a Settlement Officer's duties which consists in perfecting the record of rights. It would appear from speeches made in the Legislative Council that the need for this work is very insufficiently understood while there is no appreciation whatever of the extent to which, in spite of inherent difficulties, its progress has been expedited in recent years. Indeed unless the Department of Land Records is considerably strengthened, and the ordinary Revenue Staff enabled to devote itself more single-mindedly to its primary duties, we can hardly hope to do better than to deal with five tahsils in 3½ years, as has been done in the course of the recent Settlement of the Multan District. The Financial Commissioner entirely agrees with the Commissioner that Mr. Emerson and his staff deserve the greatest credit for this achievement, especially in view of the many interruptions to which they were subjected. He is assured that the temporary inconvenience caused to the villagers will be more than fully compensated by the time and money which they will be saved in litigation, which is the inevitable result of an imperfect record of rights. If the owners were really anxious to receive less attention from subordinate revenue

officials, they would display more enthusiasm for *Qillabandi* than paragraph 23 of the Report discloses. The Financial Commissioner hopes that the method adopted for dealing with the Jungle Estates will meet all practical purposes. He takes this last opportunity of expressing his sense of obligation to the Riverain Detachment of the Survey of India for the invaluable assistance they have rendered to the Revenue Department : on this occasion they have added to their usual services in the river beds an important survey of the suburbs of Multan.

The demarcation of the boundary with Bahawalpur State is a matter for congratulation.

The Civil Courts will no doubt have many occasions for gratitude to Pandit Nand Lal, in connection with his revision of the *Riwaj-i-Am*.

9. The small area of the Khanewal Tahsil now re-assessed for two years only will probably come under irrigation in the near future. In any case, according to the orders contained in your predecessor's letter No. 28663-R., dated 14th December 1920, the whole tahsil will come under settlement at the same time. Of the various subjects enumerated in paragraph 6 of the Report and paragraph 14 of the Commissioner's note, all have now been dealt with by Government, and the Financial Commissioner is taking steps to have the resulting orders incorporated as additional Appendices, where this has not already been done. The new schedules of occupiers' rates were notified to take effect from *Rabi* 1922. Part C of Appendix VI has been inserted in anticipation of Government sanction, but in accordance with the orders contained in paragraph 3 of your letter No. 16166 (Rev. & Agri.—Rev.), dated 31st May 1921, the rules in this part will be cancelled, and the general rules contained in paragraph 503, Settlement Manual, will apply.

The Financial Commissioner heartily concurs in the Commissioner's opinion that both in celerity and in economy the staff has shown very satisfactory results. In view of the rise in values all round which set in after the beginning of operations, the cost has exceeded the estimate by a surprisingly small margin. The Settlement will be paid for by the extra revenue of one normal year. The new demand came into force in Kabirwala and Mailsi from *Kharif* 1919 and *Kharif* 1920, respectively. In the other three tahsils, its introduction has, owing to representations made by the local officers before they were announced, been postponed till *Kharif* 1922. Present prospects are excellent, and there should be no difficulty about imposing the demand from that date. The local officers have been instructed to introduce the system of payment of revenue by estates according to a fixed roster of dates for each harvest.

10. The question of the term of Settlement which should be fixed is one which demands some consideration. Under the Sulej Valley Scheme in its approved form the portions of the district at present irrigated by the Lower Sulej Inundation Canals will for the most part receive a non-perennial supply derived from the projected weir at Jamlera, which it is intended to complete in approximately four years from the present time. The supply will afford full irrigation for the *Kharif* and first waterings for the *rabi* crops. The existing system of agriculture, depending as it does on canal irrigation supplemented by wells, will therefore remain unaltered in form though rendered far more certain by reason of the weir controlled supply. We may assume that with the anticipated progress of the Sulej Valley Project non-perennial irrigation will begin some five or six years hence in the two Sulej tahsils of the district. Such revision of land revenue assessment as may be desirable as a result of the introduction of non-perennial irrigation will not, the Financial Commissioner thinks, be a matter of great complexity seeing that the general system of agriculture will not be very radically altered. It would probably take the form of such moderate enhancement of the fluctuating *nahri* crop rate as might be practicable in combination with the substantial enhancement of occupiers' rates, which will certainly be required *ab initio* from the season in which the new

irrigation may begin. The comparatively simple revision of land revenue assessment thus contemplated would probably have to be deferred for two or three years beyond that date until some experience of the effect of the new conditions on rents and other data had been obtained. In this connection the Financial Commissioner advocates the imposition *ab initio* of as full a scale of occupiers' rates as possible. He thus anticipates that no revision of land revenue assessment will be necessary, or perhaps indeed practicable, for some eight or ten years from the present time and that when undertaken it will be a comparatively simple operation. At the same time, in view of the extensive economic changes which must in the ordinary course follow on the changes which are in preparation, Government would, in the Financial Commissioner's opinion, be wise to limit, and also fully justified in limiting the term of settlement in any case to 20 years. His recommendation in the case of the Sutlej tahsils therefore is that the term of settlement be fixed at 20 years subject, if this is legally practicable under Section 53 of the Land Revenue Act, to the right of Government to enhance the fluctuating *nahri* crop rates, if it thinks proper, after the lapse of two years from the introduction of non-perennial canal irrigation into any estates. If the condition is not practicable then the Financial Commissioner would fix the term at 20 years on the understanding that it will be open to Government in any case to enhance occupiers' rates at any time.

In the case of the Kabirwala, Multan and Shujabad Tahsils future improvement depends mainly on the progress and completion of the Haveli Weir Scheme. Its general effect will be much the same as that of the change in prospect in the Sutlej tahsils, the substitution of reliable weir—controlled non-perennial irrigation for that at present supplied, though the improvement will probably not be so extensive or so marked. The Haveli Project cannot be undertaken before the completion of the Panjnad Weir on the Sutlej which as at present anticipated is likely to be achieved some six years hence. It is therefore unlikely that the Haveli Project will yield tangible results for another 12 years, or that revision of land revenue assessment in connection with it, on the same lines as in the case of the Sutlej tahsils, will be needed for another 14 years. The Financial Commissioner would therefore fix the term of Settlement for the three tahsils under reference at 20 years with power to enhance occupiers' rates wherever necessary.

11. The Financial Commissioner has read with pleasure the remarks made by Mr. Emerson on the work of Pandit Nand Lal and Lala Diwan Chand, and fully endorses them and commends these officers to the favourable notice of Government. He has also noted with satisfaction the good work done by the other officials named by the Settlement Officer. Mr. Emerson's own conspicuously good work has already won the commendation of Government in connection with the Assessment Reports which he has submitted. The Financial Commissioner cordially concurs in the remarks contained in paragraph 15 of the Commissioner's note. Throughout the settlement, Mr. Emerson has displayed a capacity for hard and unremitting work together with qualities of tact, discretion and sound judgment of an exceptionally high order. He is to be heartily congratulated on the successful termination of his labours which have resulted in a settlement which is fair both to the land revenue payers as well as to Government and which has been well described in an excellent report.

I have, etc.,

M. S. LEIGH,

Senior Secretary to the Financial Commissioners, Punjab.

No. C-111-65-1., dated Multan, the 12th-18th October 1921.

From—E. R. ABBOTT, Esq., C.I.E., I.C.S., Commissioner, Multan Division,
To—The Senior Secretary to the Financial Commissioners, Panjab.

WITH reference to your letter No. 661-442-2, dated 30th September 1921, I have the honour to forward herewith a note on the Final Settlement Report of the Multan District.

2. Owing to my immediate departure from Multan the note I regret to say has had to be a very hurried one.

Note, dated 8th October 1921, recorded by E. R. ABBOTT, Esq., C.I.E., I.C.S., Commissioner, Multan Division, on the Final Settlement Report of the Multan District.

Revision of the Record.

It is proof of the excellence of Mr. MacLagan's field maps that out of 1,357 estates under resettlement complete remeasurement was necessary in 46 only. The saving of time and reduction of the trouble caused when it is possible to dispense with complete remeasurement is of course very considerable and still further progress in these directions has been achieved by the modified system of map correction introduced at this Settlement and described by Mr. Emerson.

2. Great as are the advantages of killabandi or the division of the cultivated area into standard rectangular fields, the trouble of re-arranging cultivation already in existence is great. Where the owners are few in number the work is somewhat easier but tenants are by no means convinced of the advantages of killabandi and cannot easily be induced to take the necessary steps. Where the holdings are small killabandi involves practically a repartition of the village and necessitates a special staff. If killabandi has not been carried out in the 34 villages referred to by Mr. Emerson new maps should now be made as a girdawari is obviously impossible where the fields on the ground differ from the fields mapped. On the Sidhnai there is unlikely to be any relapse but the actual existence of the killas should be checked from time to time.

3. Mr. Emerson's treatment of the jungle estates indicates his recognition of practical requirements and his desire to limit the trouble caused by a revision of the record to what is absolutely necessary.

4. Thanks are due to the Survey Department for the assistance afforded in supplying data for measurement work.

5. All things considered the revision of the record has been completed with extraordinary despatch due in large measure to the Settlement Officer's capacity for organization and to the loyal and whole-hearted co-operation of his lieutenants, Pandit Nand Lal and Lala Dewan Chand. The good existing record undoubtedly gave great assistance. I have every reason to believe that the new record is up to the standard of the expiring Settlement and that the very difficult urban record has been very accurately prepared.

The new assessment.

6. Curiously enough one of Mr. Emerson's greatest difficulties has been to ascertain the actual demand, for purposes of comparison, of the expiring settlement. Some of these difficulties are explained in paragraphs 18 and 19 of the Report. It is calculated that the fluctuating nature of the assessments has led to an increase by 23 per cent. of the Settlement demand due to the development of resources among which are included extensions of canal irrigation. The figures seem to shew that some Rs. 1,70,000 or approximately 10 per cent. of the demand is annually remitted under protective leases.

7. No attempt has been made to alter the general system of assessment introduced at last settlement which is well suited to the country and now generally understood and popular. Greater differentiation in rates has been introduced between different systems of Canal Irrigation and between irrigation from the same system in different Tahsils. Village to village differentiation has, however, not been introduced. The abolition of the uniform rate of Rs. 5 per well on the Sidhnai was unpopular, but differentiation in the fixed jannas was clearly called for and was possible owing to the length of time that has elapsed since the canal was dug. Two changes, the assessment of dofasli and the distribution of the sanctioned demand over the average number of wells at work in the selected period, operate to raise the actual results of the "sanctioned demand."

8. The demand imposed as reported is Rs. 21,76,043, but this has already been somewhat reduced on appeal. This demand is no more than 32 per cent. in excess of the demand with which it must be compared which though incorporating enhancements to some extent due to development of resources does not include developments in real (as opposed to lump well) fixed assessments. It would be idle to pretend that the effective rise of prices since Mr. MacLagan's settlement has not been greater than this. Liberal terms of protection for wells have been granted and Mr. Emerson's estimate of Rs. 2 lakhs as the annual remission under these leases appears to be by no means excessive.

9. The distribution of the lump well jamas over the various wells has been done with very great care and I am fully satisfied of the fairness with which this most difficult task has been accomplished.

10. The garden assessments have been made with exceptional care and although our information on the subject of the average profits of a garden during the whole period of its existence is not very accurate there can be no doubt that the assessments imposed have been very moderate. Few objections, in fact, have been preferred.

11. Date palms are a source of considerable income in the district, and, as Mr. Emerson points out, the great increase in their number has made it impossible to take so large a share for the state as would otherwise have been justified.

12. The new demand was introduced in Kabirwala and Mailsi at the harvests noted by the Settlement Officer. In the other three tahsils owing to the draught in 1921 it has been decided not to introduce the new jamas until Kharif 1922.

13. In so far as a landlord can relish an increase in his dues to the state the new assessments have been well received. Few objections were preferred in Kabirwala and Mailsi and none in Lodhran. There have been a considerable number in Multan and Shujabad, many of which have not yet been decided. These, however, had little or no reference to the fairness of the assessment according to the principles in force.

14. I have stated my opinion on the subject of the period of settlement in my letter No. CIIJ-51-12, dated 15th February 1921.

15. Since the final report went to press orders have been received—

- (1) on the occupiers rate to be levied on the Hajiwah canal: Punjab Government letter No. 1989-S.—Rev., dated 4th July 1921.
- (2) as regards the water charges on the Hajiwah canal (idem).
- (3) waste land leases; Punjab Government Memo. No. 20391-Rev., dated 3rd August 1921.
- (4) urban assessments, Punjab Government memorandum No. 11584-Rev., dated 12th April 1921.

Orders have not yet been received on the proposals for the revision of the Revenue establishment. It is, I think inconvenient that the present orders for the submission of the Final Report make it impossible to include in it matters so important to the past settlement administration of the District.

16. The settlement only lasted 3½ years a result due wholly to the untiring energy and great organising capacity displayed by Mr. Emerson. He has earned and won the admiration of his subordinates and it is to this as much as to any inherent qualities in themselves that it is due that so many have acquitted themselves well. I can confidently support the Settlement Officer's praise of P. Nand Lal and Lala Diwan Chand and of the Tahsildars, Naib-Tahsildars and Kauungos mentioned by him, practically the whole of whom I know personally.

Final Settlement Report of the Multan District.

CHAPTER I—DESCRIPTION AND DEVELOPMENT.

1. Since last settlement the composition of the District has been materially altered by the creation of the **Boundaries and area.** Khanewal tahsil, which includes a large portion of the former Kabirwala and Mailsi tahsils and a small portion of the former Multan and Lodhran tahsils. Its boundaries are not yet fixed as they move forward with the extension of irrigation from the Lower Bari Doab Canal, and it is probable that for some years to come transfers of small areas to the new tahsil will be necessary. With the exception of villages bordering on the Ravi, the Khanewal tahsil was excluded from the present revision of the settlement, and this report will, therefore, relate primarily to the five tahsils of Multan, Shujabad, Lodhran, Mailsi and Kabirwala as at present constituted. Their total area, according to the new measurements, is 4,820 square miles and they include 1,357 estates. The boundaries are arbitrary except on the west and the south where the district follows closely the course of the Chenab and Sutlej, respectively. The latter river, however, is no longer the exact line of separation from the Bahawalpur State as a fixed boundary was laid down in 1903.

2. Physically, the three natural divisions of the tract under report are the riverain or Hithar, the high barren areas or Rawa, and the lands intermediate between these known as the Utar. **Physical features.** The distinctive features of the riverain are the high water level and the influence, direct or indirect, of river floods. The outstanding features of the Rawa is the low water level. If we except these characteristics, the distinctions between the three divisions depend on the presence or absence of canal water. Differences of soil are negligible, and the varying surface level will cease to be of primary importance when the inundation system of canal disappears. Were the facilities for irrigation equal in all parts of the tract, the uniformity of physical conditions would be remarkable for such a large area.

The typically riverain area is relatively small. On the Ravi, direct inundations are rare and the value of zamindari cuts from the river has declined since Settlement. On the Sutlej, there are few creeks and the configuration of the country restricts the influence of floods, except in years when the river is unusually high. The Chenab carries larger floods than either of the above rivers and, owing to the presence of natural creeks and artificial channels, their influence extends over a large area, especially in the Shujabad Tahsil where parts of the country some miles away from the main stream are flooded in years of heavy rainfall. The effect of these inundations is generally beneficial, but to the north of the Shujabad tahsil and along the greater part of the riverain boundary of the Multan tahsil, bunds are necessary to protect the adjacent canal-irrigated lands from excessive flooding. In parts of Shujabad, percolation through the loose soil does some damage; but, owing to the retreat of the river, this is less than at settlement. Cultivation in the riverain depends on the nature of the floods and varies from year to year and in the same year from village to village. For villages with a low bank near the river, a light flood season is most beneficial, but other estates prefer heavy inundations of short duration, so that a little kharif may be harvested and a large area sown for the rabi. The deposits of the three rivers possess very different qualities. The "golden" silt of the Ravi is the best of all; that of the Sutlej often does as much harm as good, while that of the Chenab is generally of benefit though markedly inferior to that of the Ravi.

The portion of the Rawa circles outside the limits of canal irrigation consist of desolate stretches of waste broken here and there by a well or a cluster of wells. Barani cultivation is rare except in parts of the Mailsi Rawa and the cropping is generally confined to a little fodder in the kharif and a few acres of wheat and turnips in the rabi. Tenants are difficult to obtain and the well areas are mostly cultivated by owners who attach more importance to

their cattle than their crops. The soil is often of first rate quality and the yields per acre surprisingly large.

3. The average rainfall of each tahsil is given below for the years 1909-10 to 1918-19, exclusive of 1917-18 in which year the monsoon rains were abnormally heavy:—

	Multan.	Shujabad.	Lodhran.	Kabirwala.	Mailsi.
April to September ...	4.41	3.42	5.05	4.84	5.38
October to March ...	1.74	1.13	1.30	1.43	1.26
Total ...	6.15	4.55	6.35	6.27	6.59

The normal average is thus rather more than 6 inches, of which the summer rains account for about 5 inches. The rainfall varies considerably from place to place and year to year and is too precarious for any reliance to be placed on it in agricultural operations, which depend almost entirely on canal and well irrigation. The only tract in which purely barani cultivation occurs to any extent is in the Rawa Circle of Mailsi, where advantage is taken of good years to sow natural depressions with crops requiring little moisture. Elsewhere, there is little barani cropping, but good monsoon rains are of great value in providing grazing for agricultural stock, while the winter rains have a very appreciable effect on the yields and add greatly to the efficiency of the wells by giving a few days rest to the cattle.

The canal systems.

4. A primary classification of the canals is supplied by the source from which they obtain water.

(a) The Sidhnai is the only canal dependent on the Ravi. It differs from the inundation canals of the Chenab and Sutlej in that it possesses a weir, and it differs from the perennial canals because its supply is more liable to fail at critical seasons of the year. The system comprises the main canal and the Abdul Hakim, Fazal Shah and Kuranga subsidiaries. The strict rule governing the distribution of water is that the main canal has the prior claim, the surplus being first divided between the Kuranga and Fazal Shah and the balance going to the Abdul Hakim. In practice, the rule is not rigorously enforced; but even so, the subsidiaries often fare badly compared with the Sidhnai proper and, on the average, the duration of their supplies is from 88 to 97 days less than on the main canal.

The nature of the supply varies much from year to year, but it may be said generally that there is adequate water for the kharif, and, except in very bad years, for rabi sowings; in three years out of five, the supply extends to a further watering in the rabi; in one year out of five it continues throughout the cold weather; and in another year the canal opens sufficiently early to help the maturing of the rabi crops. The conditions, though markedly superior to those on the inundation canals, are still uncertain, since the supply is apt to fail when most needed. The consequences of failure are, however, less serious than at settlement owing to the large increase in the number of wells. The canal irrigates the greater portion of Kabirwala and a considerable portion of Multan, and in both tahsils the area served by it compares very favourably in every way with the area dependent on the inundation canals. This superiority is due mainly to better supply, but also, in part, to better control and distribution, which approximate closely to conditions on the perennial canals. There is as yet no good reason to suppose that the Lower Bari Doab Canal has adversely affected the Sidhnai. The present working arrangement is that the latter canal should receive 3,400 cusecs subject to a minimum of 700 cusecs being available below Malloke. This allowance was fixed after full consideration of the requirements of the canal, and it is probable that it will suffice for present needs, although it leaves little, if any, surplus for further extension of the irrigated area.

(b) A small area in Kabirwala and a large area in Multan and Shujabad are dependent on the inundation canals of the Chenab. Since settlement, several changes of importance have occurred in the system. In the first place the number of separate heads has been reduced by amalgamation, the results of which have been to give better command and more efficient distribution. In the second place, Government distributaries have replaced zamindari channels to a considerable extent; *pakka* outlets have been introduced in many villages and the system of regular distribution by means of *chakbandi* is being gradually extended. These changes have affected various persons in different ways, but the general result has been to benefit the ordinary irrigator at some cost to the powerful owner whose supply of water was previously excessive. At the same time, the triple project has had an adverse effect on the supply of the Chenab Canals, though it is not possible at present to gauge the extent of the harm done. A comparison of the dates of opening and closure during recent years with similar dates in the years previous to last settlement would seem to show that the canals now open rather later, but, on the other hand, close a few days later. When the triple project was framed, it was anticipated that the canals would open a month later and close fifteen days earlier; but subsequent experience shows that this forecast exaggerated the effects in ordinary years. On the whole, it may be assumed that the value of the river as a source of supply is less than it was, but that the loss on this account has been partly made good by the more efficient utilization of available supplies. The adverse effect is most serious in bad years when late openings seriously reduce the areas under indigo and cotton and early closures affect the yield of cotton and rice and curtail the rabi sowings.

Of the four Chenab Canals, the Sikundarabad, with its main branches, the Gajjuhatta and Panjani, is at present the most efficient. It has a good head, generally opens a few days earlier and closes a few days later than any of the other canals, and efficiently commands the villages served by it. It irrigates a fair area in the Multan tahsil and a large area in Shujabad.

The Durana Langana and the Wali Mohammad have a common head and separate at the Bosan Regulator. The former was extended in 1903 to the south of the Multan Tahsil and several new distributaries were made, but irrigation is only fairly satisfactory and not so good as from the Wali Mohammad.

The Matithal has its head a few miles below the junction of the Chenab and Ravi and irrigates in the Kabirwala and Multan tahsils. It is the least efficient of the Chenab Canals, but fortunately only a relatively small area is dependent on it.

The fourth Chenab canal is the Balochanwah which serves about 20 villages towards the south of the Hithar Chenab in Shujabad tahsil. It opens late and closes early and is mainly of use for rabi sowings.

(c) On the Sutlej, as on the Chenab, the policy of the Irrigation Department has been directed towards the unification of the different canals. The Government canals are now the Mailsi, Muhammad Wah, Sardarwah and Bahawalwah-Lodhran, and of these the second and third have a common head, while the supply of the last named is supplemented by means of a feeder channel from the Sardarwah. The canals open any time from the middle of April to the beginning of June and close between the beginning of October and the middle of December. Since settlement, there has been a distinct tendency towards later openings and closures, and although it is exceptional for the canals to run after the middle of November, it is unusual for the supply to fail before extensive rabi sowings have been made.

In the Lodhran and Shujabad tahsils, the system of distribution has been revolutionised by the substitution of Government minors for private channels, but in Mailsi practically nothing has been done in this direction since settlement. The ordinary arrangement in the latter tahsil is for each

village, and sometimes for each large owner in a village, to have a separate *kassi*, so that it is no uncommon sight to see three or four channels running parallel to each other and separated by a few yards only. As the channels are often of considerable length—a lead of 8 or 10 miles being by no means uncommon—and as their banks are of great height, the expenses of silt clearance are heavy and tend continuously to increase. For these, the land-owner is generally responsible, the tenants' liability being confined to the very ordinary clearance of the *paggi* or field channels. The large increase in the irrigated area in the Mailsi tahsil is to be attributed more to improved supply than to better control, though the latter is more efficient than at settlement. In Lodhran both factors have operated and the former has probably had less influence than the latter.

In addition to the Government canals, there are two private canals both of which irrigate parts of the Mailsi tahsil. The Hajiwah is under Government management, but its supply is used mainly to irrigate land held by its owners or their relations. The Ghulamwah is owned by the Daulatana family of Luddan by whom it is managed. It serves the estates belonging to the family and a small area owned by outsiders. It has worked consistently well for some years and the villages irrigated from it are among the best in the Mailsi tahsil.

(d) The agricultural conditions on the inundation canals may be briefly noticed. Dependent on floods in the river, the supply is uncertain both as regards volume and duration. The dates of opening and closure vary much from year to year and have a profound effect on the cropping. If the canals commence to work late, the area under indigo is small, and that under cotton is restricted, while the areas under jowar, bajra and til are relatively large. If they close early, the cultivator has to choose between saving his kharif crops or reducing his rabi sowings. In very bad years, he will not be able to mature his rice and a large part of the cotton will fail. In any case, an early closure puts a heavy strain on the well cattle during the cold weather. During the flood season, the supply of water is plentiful and there is no necessity to work the wells. On the Sutlej Canals, the wells are rarely used for the kharif, and on the Chenab they are used only in bad years. In the rabi, they are essential on both systems, and it is the happy combination of well and canal irrigation that is the outstanding feature of the agricultural system on the inundation canals. The ideal combination is found when the canals entirely suffice for the kharif and provide for the rabi sowings, and the wells entirely suffice for the maturing of the rabi crops. This ideal is completely realised only in some years in a relatively small number of villages, but the degree of approximation to it is closer than at settlement. Simultaneously with an improvement in the working of the canals, the sinking of wells has been continuous and the net result has been to create greater uniformity of conditions in the villages irrigated.

5. The use of wells as the sole means of irrigation is practically confined to the non-canal villages of the Rawa and Hithar Circle, and in the latter they are usually sunk in lands that benefit directly or indirectly from river floods. In canal villages, the value of a particular well is affected by a variety of causes among which may be mentioned:—its state of repair; the area it has to serve; the nature of the soil; the character of the canal irrigation and the efficiency of the tenant, in which the number and quality of his well-cattle are the chief factors. Of these causes, the most important is the nature of the canal irrigation, since on it depends largely the class of tenant that the owner will be able to obtain. If a particular well is often out of use, it will generally be found that either it lies at the tail of a *kassi*, or its area lies high and involves irrigation by lift. For wells with good facilities for irrigation, the landlord will have little difficulty in finding tenants well equipped with cattle.

The villages on the Chenab Canals are generally better protected by wells than on the Sutlej and in some estates in Shujabad the limit of profitable well construction has been almost reached. In all tahsils, there has been a

great increase in the number of wells since settlement, as the following table shows :—

Tahsil.	Wells.	AVERAGE FOR SELECTED PERIOD OF YEARS.		Actuals, 1899-1900.	Actuals, 1918-1919.
		Settlement.	Now.		
Multan	In use ...	3,946	6,192	4,423	6,275
	Capable of use ...	481	430	296	586
	Total ...	4,427	6,622	4,719	6,861
Shujabad	In use	3,803	4,640	3,864	4,782
	Capable of use ...	475	759	524	885
	Total ...	4,278	5,399	4,388	5,617
Lodhran	In use	3,617	4,583	3,554	4,611
	Capable of use ...	744	653	774	806
	Total ...	4,361	5,236	4,328	5,417
Kairwala	In use	1,599	4,405	2,770	4,398
	Capable of use ...	916	386	522	531
	Total ...	2,515	4,791	3,292	4,929
Mailsi	In use	2,098	3,185	2,194	3,109
	Capable of use ...	454	403	392	643
	Total ...	2,552	3,588	2,586	3,752
Total	In use	15,063	23,005	16,835	23,175
	Capable of use ...	3,070	2,631	2,518	3,401
	Total ...	18,133	25,636	19,353	26,576

Special enterprise has been shown in the Sidhnai Circles where the rabi is now far less dependent on canal irrigation than at Settlement.

The area matured per well varies within wide limits, and it is impossible to say whether a large matured area is a sign of strength or weakness unless the local conditions are known. In the Hajiwah Circle, for instance, the wells mature 32 acres on the average, whereas in the Shujabad Utar they mature only 18 acres. In the former circle, the well areas are large and the number of yokes varies from 6 to 8; in the latter circle there are many small well areas and the number of yokes varies from 2 to 5. Though the conditions are different, the wells are efficient in both circles.

The depth to water varies from 52 feet in the Rawa of Mailsi to 13 feet in the Hithar Chenab Circles. It is a factor of greater importance in both the capital and working cost of the well than the statistics of matured areas

indicate. In all circles, it is rare for the supply of water to fail, a fact to which the district owes its immunity from acute scarcity even in exceptionally bad years.

6. The table below gives the statistics for agricultural stock at settlement and at the enumerations of 1913-14 and 1919-20 :—

		Bullocks and oxen.	Cows.	Buffaloes.	Cow buffaloes.	Young stock.	Total agricultural stock.	Sheep and goats.	Camels.
At settlement	...	179,831	146,812	6,234	37,113	146,399	516,389	637,799	21,418
1913-14	..	253,735	186,159	6,073	67,717	138,054	651,738	587,338	24,074
1919-20	..	205,011	141,185	4,317	58,702	174,496	583,771	510,248	17,936

A comparison between the settlement figures and those of 1913-14 shows very appreciable increases under all heads except that of sheep and goats. The statistics of 1919-20 are less satisfactory, though it has to be remembered that owing to a change in classification which had the effect of bringing more animals into the class of young stock, the decrease in the number of full grown animals is less than appears from the table. There has, however, been a real fall in the number of agricultural cattle since 1914 attributable to several causes of which the fodder scarcity of 1918-19 and subsequent epidemics of cattle disease are the most important. Even so, the latest enumeration shows that since settlement there have been substantial increases in the number of plough and well cattle and of milch animals, especially buffaloes. The special enquiry carried out at last census showed that the number of imported animals was a very small proportion of the whole.

The fall in the number of sheep and goats is due to the contraction of grazing areas and to disease, while the decline in camels is due to the same causes and to war demands.

There has been a large rise in the value of all kinds of agricultural stock and of their produce. Profits from this source are large, but the greater part of them goes to the tenants.

7. The district is well served with railways. Subsequent to settlement, the Khanewal-Lodhran Chord Line and the Sutlej Valley Railway were constructed, but the latter was dismantled during the war and the line has not yet been relaid, though it is understood that the work will be taken in hand as soon as possible. The construction of these two lines has naturally tended to divert exports to Karachi by the direct route instead of *via* Multan, but the latter is still by far the most important market in the district. Shujabad and Jalalpur Pirwala are small centres of trade and Khanewal promises to develop into an important market.

Practically no improvement in the roads has occurred since settlement. Generally they are in bad repair and quite unfit for wheeled carriage. Camels, ponies and donkeys constitute the means of transport, and the decrease in the first named has affected the easy movement of agricultural produce.

8. The growth of population since 1891 is shown below :—

Population.

1891	...	...	...	597,745
1901	...	...	...	689,918
1911	...	...	...	783,700

Between 1891 and 1911 the increase amounted to 31 per cent. and between 1901 and 1911 to 14 per cent. It has been most marked in the

Kabirwala tahsil. The latest available figures are now out of date and owing to the operation of two special causes it is difficult to forecast the results of the forthcoming census. On the one hand, there has been a large increase in the cultivated area since 1911; on the other, the influenza epidemic of 1918 and the migration of tenants to the Lower Bari Doab Colony have taken a fairly heavy toll of the population. On the whole, it is probable that there has been an increase during the past ten years, but less than in either of the previous decennia. Taking the 1911 figures of population and the new area figures there are 416 persons per square mile of cultivation, so that the pressure on the soil is light. It is heaviest in the Shujabad tahsil where it amounts to 462 persons per square mile of cultivation and lightest in Mailsi where the incidence is only 301.

The owners are mainly, and the cultivators almost entirely, Muhammadans. The Hindus who now own about 25 per cent. of the total cultivated area have increased their holdings very little since settlement. Though they take no part in agriculture themselves, they spend considerable capital on the land and their holdings are generally better equipped than those of the Muhammadan owners. Many of the latter have, however, shown commendable enterprise and there are not a few large owners in the district who take a keen practical interest in agriculture. On the other hand, there are many who are content to be merely rent receivers. The land is divided among a large number of different tribes, the larger shares being held by Sayyads, Pathans, Koreshis, Daultanas and Khokhars.

The tenant body is still more mixed, but contains few cultivators of the first class. It is a common complaint that the Multan tenant thinks more of his cattle than his crops and the charge is to a large extent justified. He is slovenly in his methods and slow to adopt new ways; but he is not entirely impervious to improvement, and his slackness is due partly to the insecurity of the agricultural system he has to follow. There is satisfactory evidence that he has improved since settlement, and there is no reason to suppose that he will not develop into a fairly efficient cultivator under a secure system of irrigation.

9. Multan is essentially a district of large owners, though the tendency here, as elsewhere, is for the individual holding to decrease in size. An exact calculation of the average area of proprietary holding has not been made, but the average, counting each owner as many times as the number of villages in which he owns land, is 12 cultivated acres per owner. It is largest in the Mailsi tahsil where it amounts to 19 acres and lowest in Shujabad where it is 6 acres.

From the following table, which gives the cultivating occupancy of land at settlement and now it will be seen that changes in the various forms of tenure have been slight:—

	Cultivated area per cent.	
	At settlement.	Now.
Cultivated by owners	25.7	26.3
Cultivated by occupancy tenants	2.6	2.7
Cultivated by tenants-at-will	71.4	71.0
Tenants-at-will paying cash rents	4.5	3.9
Ditto at revenue rates		1.6
Ditto paying other rents	66.9	65.5

The area self-cultivated by owners is relatively small, while that held by occupancy tenants is almost negligible. Tenants paying at revenue rates are mainly cultivators of Government land in the Mailsi tahsil. The vast majority of tenants pay rent in kind at rates which vary, firstly, for different classes of soil, secondly, according as the owner pays occupiers' rates or does the silt clearances, and thirdly, in a few villages, on the same class of land for

the two harvests. Where the tenant pays the occupiers' rates, he very rarely pays more than $\frac{1}{2}$ of the produce on the best nahri and chahi-nahri soils and the share is often as low as $\frac{1}{3}$. On pure chahi crops in the Rawa Circle, it is sometimes as low as $\frac{1}{5}$ th, but the ordinary rate for unaided well crops is $\frac{1}{4}$ th. For sailab and chahi-sailab it ranges between $\frac{1}{2}$ and $\frac{1}{3}$, and for barani crops it is usually $\frac{1}{4}$. In some circles, there has been a small increase in the rates of batai; but generally owners have preferred to enhance their rents by taking additional payments from the heap in the form of *zamindari kharch*. Although these payments are by no means universal, they are more common than at settlement, and in the aggregate represent an appreciable addition to the landlords' profits. They are almost general in the Sidhnai Circles where they range between $5\frac{1}{2}$ seers and $\frac{1}{5}$ th seer per maund, the average being rather more than $2\frac{1}{2}$ seers. In other circles they average about 1 seer per maund.

The formation of the Lower Bari Doab Colony has had an unfortunate effect on the supply of tenants. In the non-canal irrigated villages immediately adjoining the colony there is an acute shortage of cultivators and in no circle is there an excess of tenants. The general effect has been to throw the worst wells out of cultivation and to force landlords to accept inferior tenants on a number of weak wells.

10. In the statement below some figures are given relating to the cultivated and average matured areas now and at settlement :—

	Chahi.	Chahi-nahri.	Nahri.	Chahi-sailab.	Abi.	Sailab.	Barani.	Total.
1. Cultivated area at Settlement.	42,873	448,973	311,088	26,370	2,472	112,703	22,656	951,165
2. Cultivated area according to new measurement.	29,232	679,106	285,475	49,777	6,987	119,513	34,861	1,204,951
3. Matured area at settlement.	86,489	178,451	295,567	31,810	6,440	106,611	9,938	714,836
4. Matured area now ...	96,665	329,495	319,066	27,873	9,652	108,848	4,482	895,991
5. Percentage of whole at settlement.	12	25	42	4	1	15	1	100
6. Percentage of whole now...	11	37	36	3	1	12	0	100

The soil classification of the cultivated areas relates in each case to that recorded at measurements and is of no practical importance, since the assessment each harvest depends not on the *quasi*-permanent class of soil; but on the actual character of the cultivation in that harvest. Thus a field may be assessed at chahi rates in one rabi, at nahri rates in the following kharif, and at chahi-nahri rates in the subsequent rabi; according in each case to the means of irrigation. The total cultivated area has increased by 23 per cent., the rise being due, in general, to new wells and improved canal irrigation, and, in particular, to extensions on the Sidhnai and Durana Langana Canals.

Turning to the matured areas, we find that the total apparent increase is 1,81,155 acres or 25 per cent. The actual increase has been larger than this, since the years now selected for assessment purposes were rather below average and during them the allowances for kharaba were distinctly higher than at Settlement. The relevant kharaba figures are given below :—

Kharaba allowances on sown area.

	Kharif.	Rabi.	Both harvests.
At Settlement.	20	3	9
Now.	21	8	13

Simultaneously with the increase in the matured area, there has been a marked decrease in the proportion to the whole of the less secure forms of

cropping. Chahi has fallen from 12 to 11 per cent. ; sailab from 15 to 12 per cent. and nahri from 42 to 33 per cent. On the other hand, chahi-nahri crops average 37 per cent. of the cropping as against 25 per cent. only at settlement. The cropped area is thus both larger and more secure than twenty years ago, and since the assessment is based almost entirely on crops the improvement is of cardinal importance.

11. The percentages of the total matured area occupied by the various crops now and at settlement are given below :—

CROP.							At Settlement percentage.	Now percentage.
Rice	...	...	...	...	...	...	2	2
Jowar	...	...	...	...	...	...	9	7
Rajra	...	...	...	...	...	...	2	5
Cotton	...	...	...	...	...	...	10	5
Indigo	...	...	...	...	...	...	4	1
Til	...	...	...	...	...	...	3	3
Total Kharif							34	33
Wheat	...	...	...	...	...	...	44	44
Barley	...	...	...	...	...	...	1	1
Gram	...	...	...	...	...	...	3	4
Pears	...	...	...	...	...	...	5	4
Oil seeds	...	...	...	...	...	...	1	3
Turnips	...	...	...	...	...	...	6	5
Total Rabi							66	67

The decrease in jowar is apparent only since at settlement this also included *chahi*. The decline in the proportion under cotton is also exaggerated ; the years selected were not good cotton years and kharaba has been given on a very liberal scale for this crop. The area under indigo has fallen seriously mainly as a result of the later opening of the canals, but also because of the pre-war slump in prices. The kharif, on the whole, now contains a lower proportion of valuable crops than at settlement, but it has to be borne in mind that the system of cropping varies largely from year to year according to the duration and distribution of supplies of canal water. In the rabi, the changes since settlement have been slight.

12. A grave cause of anxiety at settlement was the extent to which land was being transferred by agriculturists to money-lenders both permanently by way of sale and temporarily by way of mortgage. This tendency was effectively arrested by the Alienation of Land Act, and since this measure became law a marked improvement has occurred. In the table attached are the main statistics relating to alienations of cultivated land, the figures being taken from the Assessment Reports of the different tahsils and not therefore relating to the same years :—

TAHSIL.	SALES.		MORTGAGES.			
	Percentage of cultivated area sold since settlement.		Cultivated area mortgaged at Settlement.		Cultivated area mortgaged now.	
			In acres.	Percentage of whole.	In acres.	Percentage of whole.
Multan	12		37,671	17	26,418	10
Shujabad	12		21,232	13	17,944	10
Lodhran	12		80,582	16	28,459	13
Kabirwala	10		19,841	9.5	20,320	8.3
Mailai	■		27,878	11	21,501	9

The proportion of the total cultivated area sold is not very heavy in any tahsil and the sales have been mostly either between Hindus or between agriculturists. In every tahsil, the percentage of the cultivated area under mortgage has fallen, and in four of the tahsils there has been a decrease, substantial

in some cases, of the actual area mortgaged. At the same time, the nature of the mortgage debt has changed. Much of it now relates to transfers for fixed periods, at the termination of which redemption will be automatic, while the oppressive form of lekha-mukhi mortgage is now found in a much smaller area than at settlement. In several tahsils, there has been a contraction of the mortgage debt despite the increase in the value of land, which, as the following table shows, has been general : -

Tahsil.	Years.	PER ACRE CULTIVATED	
		Sale price.	Mortgage value.
		Rs.	Rs.
Multan ...	1893-94--1897-98 ...	89	76
	1913-14--1917-18 ...	348	61
Shujabad ...	1893-94--1897-98 ...	98	55
	1913-14--1917-18 ...	202	98
Lodhran ...	1894-95--1898-99 ...	68	62
	1914-15--1918-19 ...	149	73
Kabirwala ...	1893-94--1897-98 ...	64	76
	1912-13--1916-17 ...	135	69
Mailsi ...	1894-95--1898-99 ...	47	55
	1913-14--1917-18 ...	154	62

The sale prices furnish the true basis of comparison, since the character of mortgage transactions has radically changed since settlement. The statistics of alienations taken, as a whole, afford striking evidence of real development.

CHAPTER II.—FISCAL HISTORY.

13. The assessments of native rulers were characterised by considerable variety and elasticity. The most common method was for the State to claim a share of the produce which might or might not be converted into cash before removal from the threshing floor. The share taken varied on different soils in different villages and sometimes in different holdings within the same village, but it seems to have averaged about $\frac{1}{5}$ th or $\frac{1}{3}$ th on sailab, $\frac{1}{4}$ th on canal lands and $\frac{1}{3}$ th on well lands. Within this general system there were several variations. On special crops, such as cotton and indigo, it was usual to take zabti rates which varied largely from village to village and often followed no logical principle of valuation. Again, there was in some parts of the districts a system of fixed well assessments under which a lump sum demand was prescribed for a definite area around a well. This varied between Rs. 12 and Rs. 20 per well and covered all crops raised within the fixed area which generally extended to 15 or 20 acres per well. Outside these limits the crops were subject to assessment by cash or in kind. This particular method of assessment thus resembled the general method now in force, in that it combined a lump sum assessment on wells with a fluctuating assessment; but an important distinction was the remission of all fluctuating assessment on a prescribed portion of the well area, a feature not found in the existing system.

The general merit of native assessments was the large extent to which effect was given to the fluctuating principle. Under the able supervision of Diwan Sawan Mal, it enabled the State to collect a large revenue demand without serious inconvenience to the people, and to its temporary abandonment must be attributed the relative failure of the early settlements of British rule. On the other hand, a grave defect of the pre-British assessments was the exaction of a number of miscellaneous imposts, often of an arbitrary character, that added largely to the gross burden on the land and prevented its fair distribution.

14. The first summary settlement was carried out by Lieutenant James in the three Southern Tahsils and by Mr. Edgeworth in the two Northern Tahsils. It was sanctioned in 1850 for three years, but broke down almost at once, partly because it was too rigid, and partly because the cash equivalent of the State share had been calculated at prices higher than those which actually prevailed.

The second summary settlement was entrusted to Major Hamilton for the Shujabad and Lodhran Tahsils, and to Mr. Henderson for the rest of the district. A fluctuating system was introduced on the riverain, but a fixed cash assessment maintained elsewhere. The former demand was enhanced in three tahsils, but reduced in Shujabad and Lodhran, the total being rather less than that of the first summary settlement. The demand was not particularly heavy, but its inelasticity was unpopular.

15. In the first Regular Settlement, conducted by Mr. (later Sir John) Morris in 1857--60, an attempt was made to give greater elasticity to the revenue system by providing for remission of a considerable portion of the demand of each village in the case of a great and general failure of sailab or canal cultivation. As no effect was given to the scheme, the assessment continued in the form of a fixed cash demand. Fortunately, as the total assessment was light (16 per cent. below that of the second summary settlement) and was well distributed, it did not press heavily on the people.

The second Regular Settlement was commenced by Mr. (afterwards Sir Charles) Roe in 1873. Assessment circles were formed, a soil classification was made, and soil rates were deduced from a half-net assets estimate. A further attempt was made to introduce the fluctuating element, and this was entirely successful on areas subject to direct inundation from the rivers where the assessment was made entirely fluctuating. It failed, however, on canal lands owing to the complicated nature of the scheme. The system of remissions devised at the previous settlement was extended to holdings, the revenue of which was classified as canal or remissible and non-canal or non-remissible. Failure of canal supply in any harvest entitled the owner to a remission of part of the demand; but if, on the other hand, irrigation were extended to new areas, it had to pay a *kashi-nahri* rate of 8 annas per acre. The relief granted in practice under this scheme was quite inadequate and did little to make the canal assessment in any way fluctuating. In spite of this failure, the settlement was satisfactory, on the whole, though it resulted in hardships to individuals. The enhancement taken amounted to 40 per cent.

The financial results of the various settlements are apparent from the following figures which relate to the district as constituted at last settlement:—

					Total demand.
					Rs.
First Summary Settlement	...	...	...	...	5,94,151
2nd „ „	...	...	...	...	5,87,835
1st Regular „	...	...	...	...	4,85,835
2nd „ „	...	...	...	...	6,85,016

During the term of the second Regular Settlement the Sidhuai Canal was opened in 1886, and in the area irrigated by it a fluctuating demand replaced the former fixed assessment.

Similarly, the bar-barani settlement of Mailsi, carried out in 1893, substituted fluctuating rates, payable by Government tenants, for the system of leases to middle men.

16. The Third Regular Settlement was conducted by Mr. (now His Excellency Sir Edward) Maclagan, who assumed charge in 1896. The outstanding feature of his settlement was the development and extension of the fluctuating principle, and it will therefore be convenient in the first place to describe the system adopted. For a full description, I would refer to Chapter IV of Mr. Maclagan's Final

Settlement Report and to paragraphs 40-45 of his Assessment Report of the Kabirwala Tahsil. In their original form the proposals were very simple. Well-cultivation was to pay a fixed assessment, but all other lands were to be subject to fluctuating rates. These were to be uniform for the same class of soil within a circle, though varying for different classes of soil and from circle to circle, and they were to be applied to matured areas only. No crop differentiation was proposed except with regard to occupiers' rates which were to replace *chher* on the inundation canals. On the Sidhnai, the canal charges were to remain consolidated, and the same set of soil rates was to be applied in both harvests. On all the canals, concession rates were to be given on lift irrigation and a crop following a rabi crop in the same harvest was to be exempt. The fixed assessment was to vary from well to well except on the Sidhnai where a uniform low assessment was recommended as suitable for all wells. New wells were to be given protective leases and old wells which became unusable through no fault of the owners were to obtain a remission of the fixed assessment.

While the essential principles outlined above were retained, certain changes in detail were made under the orders of Government. In the fluctuating part of the assessment, differentiation by crops was made for Sidhnai irrigation and for sailab and abi lands; and in the fixed portion of the assessment, an important element of fluctuation was introduced by making the demand payable only on wells in use. The fluctuating crop rates, however, were still kept uniform within the same circle, and, in so far as they did not provide automatically for differences between various estates, it was necessary to redress inequalities by local variation of the fixed demand. How this was done can best be described in Mr. MacLagan's own words:—"To assess the wells adequately and in such a manner as to combine due elasticity with a proper regard to the varying rates of profit in various villages was one of the most important problems to be dealt with in the settlement, but it will suffice, without detailing the various alternatives possible and proposed, to notice briefly the features of the scheme actually adopted.

"The main point of the scheme was that each well should be assessed at a lump sum in respect of the assets not touched by the fluctuating rates. This lump assessment was imposed not on any particular area but on the well itself as representing the source of cultivation. The assets on which this assessment was made are not, however, confined to the assets proper, of which the well could be said to be the author, nor is the differentiation between the well assessments of different villages based merely on the differences in quality between the several wells. We have, for the sake of simplicity, adopted uniform canal-advantage and sailab rates applicable to whole tahsils or whole tracts of country, it being considered inconvenient and impracticable to devise varying rates adapted to the varying circumstances of each estate and holding. In adopting these uniform rates, we naturally chose a figure somewhat lower in each case than the average half-net assets would justify, and so we left a certain amount of the assessable canal and sailab profits untouched by the fluctuating nahri and sailab rates. With reference to the sailab rates, this was not a matter of much importance owing to the considerable increase taken in the sailab revenue and to the recognised fluctuations in sailab profits. In the case of canal lands, however, the differences in the quality of the crops in different estates could not be neglected, and, in default of the adoption of separate fluctuating rates for each separate village or group of villages, we have taxed the greater part of the remaining assets by enhancing the lump assessments which have been imposed upon the wells. As a large amount of the pure canal irrigation lies within the boundaries of well estates, we have thus been able to differentiate between the various well estates not only on the basis of the well assets proper, but also in respect of the canal irrigation received by the well estate. The system is admittedly an imperfect one, as it does not touch the variations in canal lands which are not attached to wells, but it will, it is believed, be found suitable for practical purposes, and is, in any case, I think, preferable to the alternative course of varying our fluctuating rates to meet the circumstances of each village or holding."

The well assessments in some cases thus included more than the State share of the profits due solely to the well, and as a result they were heavy in parts of the Shujabad tahsil. On individual wells, they varied between Re. 1

and Rs. 100. On the Sidhnai wells the assessment was uniform at Rs. 5 per well.

17. The above description refers to the method introduced over the greater part of the district. Certain local variations must be mentioned. In the Utar, Rawa and Hithar Ravi circles of Kabirwala Tahsil, and in part of the Rawa Circle of Mailsi, the assessment was entirely fluctuating. In the Atrai of Multan, four estates of the Multan tahsil, and on land on the Hajiwah canal, owned by the Khakwani Khans and their relations, an entirely fixed demand was imposed. In addition, special assessments were imposed on date-palms, gardens and sajji amounting for the district as then constituted to Rs. 24,746, Rs. 3,242 and Rs. 510, respectively. In two villages a separate assessment was put on the village waste, and Government lands, though assessed in the first place exactly as proprietary lands, were also subject to fixed or fluctuating malikana.

18. The basis of the assessment was the half-net assets estimates framed separately for each assessment circle and each class of soil. From them were deduced crop rates to be applied to matured areas. They were prepared with great care and a special feature was the liberal allowance made for landlords' expenses, among which the more important items were the cost of silt clearances, menial dues, and fodder concessions. The yields assumed were described as "safe though not unduly lenient," and the prices as "fair." The estimate was framed on lines rather less favourable to Government than was then customary, and this fact has to be borne in mind in considering the apparently high proportion of its theoretical share taken by Government. In no tahsil was this less than 88 per cent. and in Multan and Kabirwala it was 94 per cent.; but in the two latter tahsils the consolidated rates on Sidhnai irrigation included both land revenue and occupiers' rates.

The estimated new demand for the district as a whole was 30 per cent. more than that of the previous five years and the enhancement varied between 5 per cent. in Lodhran and 38 per cent. in each of the Multan and Shujabad tahsils. The average incidence per matured acre was Re. 1-10-6.

The assessment imposed, excluding malikana and date revenue, for each tahsil, as then constituted, was as follows:—

	Multan.	Shujabad.	Lodhran.	Kabirwala.	Mailsi.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Assessment imposed	3,67,282	2,74,391	1,61,018	3,87,864	1,49,789	13,39,844

Of the total, about 75 per cent. was fluctuating and 25 per cent. fixed. After deduction of the revenue imposed on estates since transferred to the Khanewal tahsil, the total settlement demand for the area now in question may be taken as Rs. 13,34,000 in round figures.

It must be understood that what has been described above as the assessment imposed by Mr. MacLagan, was, in fact, the assessment that would have resulted in any year had the cropping by soils been exactly the same as the average cropping for his selected period and had the same wells remained in use. The total demand has, of course, varied largely from year to year. The average collections, including assigned revenue, for the period of years now selected were as follows:—

					Fixed.	Fluctuating.	Total.
					Rs.	Rs.	Rs.
Multan	...	...	...	...	83,354	3,22,905	4,06,259
Shujabad	...	...	...	...	77,031	1,79,247	2,56,278
Lodhran	...	...	...	...	60,529	1,36,508	1,97,037
Kabirwala	...	...	...	...	11,202	4,18,762	4,29,964
Mailsi	...	...	...	...	60,305	1,20,768	1,81,073

19. Even the above figures do not furnish a true means of comparison with the settlement demand. Nor do they contain the material by which the assessment now imposed can be compared with that previously in force. For the latter comparison, it is necessary to know what the average total demand would have been for the selected period had no remissions been given for wells in use under protective leases or for other special causes, such as for the first few years of cultivation on leased areas on the Durana Langana Extension. For this reason, an estimate had to be made of the true total demand in each tahsil, and it is with these estimates that the new assessments will be compared later. They are as follows:

					Fixed.	Fluctuating.	Total.
					Rs.	Rs.	Rs.
Multan	...	...	...	...	1,08,058	3,51,404	4,60,062
Shujabad	...	...	...	...	1,01,531	1,79,247	2,80,778
Lodhran	...	...	...	...	77,164	1,36,508	2,13,672
Kabirwala	...	...	...	...	22,582	4,68,062	4,89,644
Mailsi	...	...	...	...	75,386	1,20,768	1,96,154
Total					3,85,321	12,53,989	16,39,310

Had no provision been made for remissions, the settlement demand would thus have increased by more than Rs. 3 lakhs, or by 23 per cent. without any enhancement of the rates then sanctioned. This percentage may be taken to represent roughly the development of resources, independent of the rise in the value of agricultural produce.

20. The system introduced by Mr. MacLagan has been profitable to the State, since, subject to reasonable concessions for improvements, it has allowed the assessment of new resources as they came into existence. It has proved to be well suited to the conditions of the district, since the automatic adjustment of a large part of the demand to seasonal conditions has prevented the State claims from being at any time burdensome. The assessment when imposed was regarded as full, but two factors gave almost immediate relief. The upward movement in prices began before the introduction of the new settlement and has continued ever since; and a very liberal scale of *kharaba* allowances during the early years of the settlement had a marked effect on the actual incidence of the demand. It may, indeed, be assumed that the scale was more generous than the Settlement Officer had contemplated, and the large power that the system of assessment places in the hands of subordinate officials must be accounted its chief defect. This, however, is inseparable from a fluctuating assessment in a district where agricultural conditions are very unstable. The people would on no account return to a system of fixed revenue, and their views provide the best proof of the success of the drastic changes made at last Settlement.

21. Among those changes must be included the abolition of *chher* or statutory labour and the introduction of occupiers' rates on the inundation canals. The results have been beneficial to owners and tenants alike. Mr. MacLagan described this reform as probably the most important economic change which the district had undergone since settlement and this description has proved correct. It is, for instance, certain that had the *chher* system still obtained, the tenant problem would be acute. The change was unpopular when it was made, but no one now wishes to revert to the old system.

CHAPTER III.—THE REVISION OF THE RECORDS.

22. The system of measurement followed was generally that of revision of the settlement maps. For this purpose tracings of the latter were required, and much time and labour were saved, while greater accuracy was secured, by adopting a first copy method instead of the duplicate copy method employed in other settlements. Carbon paper was laid on the blank mapping sheet and the settlement map placed on top of both. The tracing was then done by softly using a bone pen, and completing in pencil the lines so marked on the new mussavi. The settlement maps were of a high standard of accuracy being with few exceptions correct representations of the then field system. When, however, the tests laid down in Appendix XXI of the Settlement Manual were applied, it was found that in many villages the field system had radically changed, and that the number of fields with boundaries not shown in the settlement maps was often a large proportion of the whole. Changes of this kind were most common on the inundation canals where successive tenants often hold different ideas as to the arrangement of fields for the purpose of well irrigation. Had the instructions of Appendix XXI been strictly followed, it would therefore have been necessary to have done remeasurement in a large number of estates. This was avoided by the adoption of a modified system of *tarmim*. In most villages of this kind it was found that there were fixed points existing now and at settlement, the positions of which were shown correctly on the settlement maps and which could be used for the purpose of internal measurements in the same way as the *chandās* laid down by the survey department are used in riverain measurements. Where the patwari had to measure a block in which the field system had altered much, he therefore made search for three fixed points, chained the distances between each pair and compared these distances with those given by scale on the tracing of the old *shajra*. If the results practically coincided—as they generally did—he was then able to use the three sides of the triangle as bases for the internal measurements of the block, and so avoid the necessity of square laying.

This system, which proved very satisfactory, was carried out in combination with the ordinary methods of *tarmim*. In many villages the latter could be adopted for the whole area; in a few villages the modified system had to be followed throughout; in a considerable number of villages it had to be followed for part of the area. The great merit of this combination of methods was that it obviated square laying in many estates where the cultivated area had increased largely. It would not, of course, have been possible had not the settlement maps been unusually accurate. Complete re-measurement was necessary in 46 estates only.

Over a large part of the Sidhnai circles, the maps of last settlement showed fields of 4 bighas, usually of rectangular shape. Sometimes the boundaries did not exist on the ground and the practical work of measurement consisted of marking them out and insisting on the land-owners making the boundaries of suitable size.

23 Attempts were made to get land-owners to carry out *qilabandi*, and they agreed in 34 villages, most of which are in the Mailsi tahsil. Usually the owners were few and little, if any, re-arrangement of proprietary holdings was necessary. In some cases, however, the owners have not yet fully marked on the ground the new field boundaries; nor has it been easy for them to do so, as drastic changes in the field system cannot be carried out without a good supply of water. It has, therefore, been necessary to give them successive extensions of time for completion of the work. But it is obvious that unless this is done within a reasonable time new maps, according to the actual field system, must be prepared at the expense of the owners. I have left a note dealing with the case. On the whole, *qilabandi* is not suited to local conditions as they exist at present, and I regret that it was attempted even on a small scale.

24. Special difficulties occurred in the measurements of the jungle estates. At last settlement, a map on the scale of 240 *karms* to the inch was prepared for each estate and, in addition, private and cultivated plots were separately mapped

on the scale of 40 *karms*. Measurements were done on a single system of squares and although, owing to the long distance over which the squares had to be carried, the measurements were not very accurate, the maps were sufficiently correct for all practical purposes. Two difficulties arose at the present settlement. The first related to the mapping of new cultivation; the second to the demarcation on the ground of the boundaries of private holdings, the owners of which often did not know the extent of their lands. A thorough solution of either difficulty involved the re-laying of squares over miles of country and, since within a few years, the whole area will have to be scientifically re-surveyed on account of the new canal schemes, it was decided to limit measurement work to what was essential for practical requirements. The small-scale map of settlement was traced and accepted as an accurate representation at the time of settlement of the whole area and of the cultivated and privately-owned plots or *dohras* as they are called. But, as in many cases, the *dohras* were not sub-divided in these small maps into proprietary occupancy and other holdings, this was now done by *paimana kat* from the old big scale maps of the *dohras*. Our new small scale maps thus show the various kinds of holdings as they were at settlement. They show nothing more unless the additional cultivation since settlement could be mapped within a reasonable time with complete accuracy as regards area, shape, direction and position.

As a supplement to these small-scale maps are the new maps of the *dohras*. These were measured as units on the 40-*karm* scale and are accurate as regards shape and area, but their relative position is not shown and their direction is not necessarily correct. They are mainly of use for purposes of *girdawari*. In any cases of dispute, reference will have to be made to the maps of last settlement; but disputes are not likely to arise, and since a repartition of estates will be made when *qilabandi* is carried out, it is a matter of no moment that the boundaries of many proprietary holdings cannot be demarcated on the ground without enormous time and labour. The areas are on record and special care was taken that no addition was made to those recorded at settlement without proper authority.

25. In the riverain estates of all three rivers, the necessary data were supplied by the Survey Department to which I am indebted for the despatch and thoroughness with which it carried out its part of the work.

Scientific surveys.

Its assistance was also enlisted for the survey of the suburban estates of Multan City. The Settlement maps were not accurate; much of the land is of great value; and for the purpose of the assessment of urban lands it was necessary to have as correct maps as possible. The survey of each estate, as a whole, was first done on the scale of 20 *karms* to the inch; after which the survey was done of those portions coming under urban assessment on the scale of 10 *karms* to the inch. For the latter part of the survey, as many *mussavis* were used as were necessary to show the relative position of plots and, although this added to the initial cost, it will enable the *mussavis* to be kept up to date. In both cases, the survey department gave sufficient fixed points to allow the *patwaris* to do the internal measurements.

26. The unit of length throughout the district is the *karm* of 66 inches, so that there are 8 *kanals* or 2 *bighas* exactly to the acre.

Units.

27. The following documents are included in the record of rights:—

Record-of-rights.

(I) *A Preliminary proceeding*.—It cites the notification of the Local Government sanctioning the re-settlement and gives the date of the beginning and completion of the measurement and the dates of the final attestation by the different officials.

(II) *Field Map*.—

(III) *The Genealogical table*.—This has been drawn up on one continuous sheet of paper for each village. The *shajra-i-nasab* of the last settlement was attested on the spot by the field *kanungo* in the presence of the owners and brought up to date, additions of names and

necessary notes of sale and gift being made on it in pencil. A fair copy was then prepared, which copy was checked and re-checked during measurements by the supervising officials and ultimately finally attested by them on the spot at the time of their final attestations. This copy or *chitha*, as it is technically called, was attached to the khatauni. Two fair copies were then prepared from the *chitha*, one to be added to the Government copy of the record-of-rights and the other to the patwari's copy.

(IV) *Index of wells.*—

(V) *Index of owners.*—

(VI) *Jamabandi.*—This is an exact copy of the khatauni, as finally attested by the Settlement Tahsildars. All mutations brought to light up to the time of the final attestation of the Naib-Tahsildar were disposed of and incorporated in it. The year of this document is the year of measurement.

(VII) *Mutations.*—All mutations sanctioned since the preparation of the last detailed jamabandi have been attached to the record. Where the number was large, they have been bound in a separate volume.

(VIII) *Statement of Revenue assignment.*—

(IX) *Statement of rights in wells.*—This has been prepared in the prescribed form with the aid of the statement of last settlement and the present measurement papers. The total area attached to each well with the detail of each class of soil has been entered.

(X) *The order of the Settlement Officer determining the assessment.*—The order contains all necessary information regarding the fixed assessment, if any, the assessment on wells, the fluctuating assessment and the assessment on dates and gardens.

(XI) *The Settlement Officer's order of distribution of the assessment.*—In villages where a well assessment has been imposed, list of wells has been attached; the assessment of each has been entered and necessary details given regarding protective leases. Appropriate entries have been made for the fixed assessment, if any, and for the assessment on date-palms and gardens.

28. The revision of the records was carried out on the usual lines and there is little of special interest to note.

Revision of the records. The shares of co-proprietors are often complicated owing to the Muhammadan Law of succession, and in the old jamabandis little effort had been made to express them in the most simple form. This has now been done wherever possible. The system followed at last settlement of taking the well as a sub-unit in proprietary holdings was maintained, and in the village maps the area of each well has been marked off. In all estates, the measurement jamabandi has been filed as part of the standing record.

Many inferior proprietors applied for the exclusion of the names of superior owners on the ground that the latter had long ceased to exercise their recorded rights. Except in special cases, the applicants were referred to the Civil Courts.

Disputes as to the exact method of division and the particular crops on which inferior and superior owners take extra dues are not uncommon in this district, and as the records of last settlement were not always clearly worded, special attention was paid to this matter.

For reasons given in paragraph 50 of the Final Settlement Report no record-of-rights in canal irrigation was prepared at last settlement. Since then the control of the Irrigation Department has become much more effective and it would now be impracticable, even if it were desirable, to prepare any such record.

The *Wajib-ul-Arz* was re-attested in accordance with Standing Orders on the subject. Disputes were rare and when no amicable settlement could be reached the former entry was maintained. The permission granted to Tahsildars to attest undisputed entries saved much time.

29. The only boundary disputes that gave any trouble were in connection with the line laid down in 1903 with the Bahawalpur State. This was not then marked out on the ground by means of pillars, but was incorporated in our mussavis and in some cases in the mussavis of the State. In some of our riverain estates, the squares were not accurate, while, in order to show the line in the State maps, our squares had been prolonged for some distance. The result was that the lines as claimed by the two sides did not always coincide. Fortunately, the differences were usually small and all disputes have been amicably settled. Permanent pillars have been erected, or are in course of erection, along the boundary, and the line has been incorporated in the plotted sheets supplied by the Survey Department, from which it can be relaid at any time.

30. A record of tribal custom was prepared by Sir Charles Roe in 1879 and a reprint of this with slight additions was made at last settlement. As a convenient work of reference the compilation was defective owing to the relatively narrow scope of the questions addressed to landholders and the paucity of instances given in support of their replies. Sanction was therefore obtained for its thorough revision. The work was carried out under my supervision by Pandit Nand Lal, who had similar experience in Ferozepore and who has devoted great care to the preparation of a reliable and comprehensive record, supported by numerous instances. He deserves much credit for a compilation which should be of great value to the Civil Courts.

31. The system of assessment, dependent as it is on thorough harvest inspections and the preparation of somewhat intricate statements, occupies a large part of the time of the revenue establishment. The patwaris had to spend about five months in each year in work not directly connected with the settlement, and the periodical interruptions on account of ordinary revenue work inevitably interfered with the progress of operations. The difficulty was overcome to a considerable extent by the employment of a fairly large number of settlement patwaris and during the first two years the work progressed satisfactorily. During 1920, however, various causes operated to obstruct progress. Special work connected with the introduction of the reforms scheme occupied nearly two months; census work was the cause of further interruptions; while the discontent and unrest among kanungos and patwaris had a distinct effect on quality and outturn. In consequence, it was not possible to adhere to our programme and the completion of the record work was delayed until the end of March 1921, or up to a less than a month before the practical close of operations. Having regard to the special circumstances, the superior staff is entitled to much credit for having then finished the work. The control of measurement and record work was under Pandit Nand Lal in the Kahirwala, Mailsi and Lodhran tahsils, and under Lala Diwan Chand for Multan and Shujabad. After the first year, the burden rested almost entirely on them, as assessment and miscellaneous work occupied practically the whole of my time. The Director of Land Records inspected the work of all tahsils and his reports were uniformly favourable.

32. The statement below shows the number of mutations decided and other work disposed of up to the end of March 1921 :—

Mutations.		Settlement Officer.	Officiating Settlement Officer.	Extra Assistant Settlement Officers	Total.
Appeals {	Partitions	40	10	...	50
	Mutations	260	66	...	346
Original cases—Laubardari		320	49	917	1,286
Patwaris and Kanungos		146	10	567	723
Muafi revisions		109	61	8	178
Boundary cases		39	4	...	43
Partitions		...	...	874	874
Hadbarari		...	...	...	...
Other revenue cases		312	41	901	1,254
Enhancement of rent		2	...	...	2
Criminal cases		2	...	10	12

The mutation and case work was not particularly heavy ; but, on the other hand, the classification of wells involved much labour in all tahsils, and the preparation of garden files took considerable time in Multan and Shujabad. In the former tahsil, the urban measurements gave an amount of trouble out of all proportion to the area concerned.

33. The abstract note books have been re-arranged and rebound. Mr. MacLagan's inspection notes have been transferred to them from the bilingual village note books, and they also contain for each village :— a map, the chief agricultural statistics since settlement, a form for the entry of similar statistics during the next thirty years ; the village inspection notes and assessment orders of this settlement, and few blank pages for the record of remarks by Revenue officers. New village, circle and tahsil note books have been issued and the form of several statements revised. The chief changes relate to the inclusion of chahijhalari and jhalari among the classes of soil, and to the more convenient entry of the revenue demand under appropriate heads.

CHAPTER IV.—THE NEW ASSESSMENT.

34. At the present revision, the assessment circles fixed at last settlement were changed as little as possible. The transfer of a large area from the Kabirwala to the Khanewal tahsil allowed the amalgamation of three former circles, Hithar-Ravi, Utar and Rawa, into a single circle, the Utar ; and in the Mailsi tahsil, the Hajiwah estates were treated as a separate circle instead of a sub-circle. These were the only changes made. In each tahsil, there are Utar and Hithar Circles ; in all tahsils, except Kabirwala, there is a Rawa Circle ; in Kabirwala and Multan, there is a Sidhnai Circle ; in Multan the Atrai, consisting of 7 suburban estates, have been dealt with separately ; and in Mailsi there is a Hajiwah Circle. The total number of circles is thus eighteen.

Owing to the extension of canal irrigation, some of the circles are less homogeneous than they were at settlement, and, in particular, many Rawa villages closely resemble Utar estates with similar irrigational facilities.

35. The classification of soils was based, as formerly, on the means of irrigation. The classes recorded were —

Chahi ; chahi-nahri ; chahi-jhalari ; nahri, jhalari ; chahi-sailab ; sailab ; abi and laranai.

Most of these terms explain themselves, and it is only necessary to observe that jhalari applies to land irrigated by means of lift from canals ; that chahi-jhalari relates to similar land also aided by wells ; and that chahi-sailab includes abi land aided by wells.

As already explained, the soil classification, for purposes of assessment, changes from harvest to harvest, so that the quasi-permanent classification of a particular field as recorded in the measurement papers does not determine the revenue it pays in any harvest. This depends, firstly, on the matured area it contains, and, secondly, on the means of irrigation used in that harvest. These factors are recorded in the khasra-girdawari, and the foundation of the assessment proposals was the record of the matured areas during the selected years, and not the soil classification as made during measurements.

36. The years selected as the basis of the assessment calculations were 1912-13, 1913-14, 1915-16 and 1916-17. The rapid development during the previous decennium made it desirable to select a fairly recent period, and the fact that this selection was shorter than is usually chosen was not a serious defect, since by far the greater part of the demand is fluctuating. The year 1914-15 was excluded since both harvests were unusually good in all tahsils. An ideal period for the purposes of assessment would have been one that satisfied the following conditions : — (a) gave a correct average of well-aided crops and thus furnished a safe guide to the well assessments ; (b) gave correct averages by soils and crops of the matured areas subject to fluctuating assessment. Our period did not quite satisfy these conditions. Canal irrigation was

rather below normal expectations, and, in consequence, the well-aided crops were of somewhat more than average area, while the area under cotton was depressed. In proposing the well assessments, due regard was paid to the nature of the years and the only defect, which is of little practical importance, is that the estimated average fluctuating assessment at the new rates will probably prove to be an underestimate of actual collections. On the whole, the four years were fairly typical of agricultural conditions. The period had this merit that *kharabi* allowances, while erring in some cases on the side of liberality, were not unreasonable.

37. The commutation prices for the principal crops as sanctioned by the Financial Commissioner were as follows :—

	Mailsi Tahsil.			Other four tahsils.		
	IN ANNAS PER MAUND.					
Rice	30		32
Jowar	28		32
Bajra	33		37
Til	80		82
Cotton	90		98
Indigo	1,024		1,024
Wheat	33		41
Barley	26		26
Gram	33		33
Ussun	46		46
Other oil-seeds	54		54
IN RUPEES PER ACRE.						
Fodder	10		10
Peas	15		15

It will be observed that for several crops the prices assumed for Mailsi were lower than those assumed elsewhere. This tahsil is still backward economically and the prices as recorded in the circle note books showed that they ruled distinctly lower than in the other four tahsils. The sanctioned prices though appreciably higher than those adopted in recent settlements, are still much below actuals and must be regarded as lenient.

The general rise in prices, calculated according to the method illustrated in paragraph 376 of the Settlement Manual, varied in the different tahsils between 36 and 38 per cent. on the basis of the prices assumed at settlement and now; and between 41 and 49 per cent. on the basis of actual averages for the quinquennia ending 1901-02 and 1916-17, respectively. These figures are independent of the rise in the expenses of cultivation borne by the land lord, so that the latter have to be taken into account in considering how far the rise in prices has been effective. No generalisation applicable to all owners can be made on this point, because the resultant effect of higher prices and increased costs depends, firstly, on the proportion that expenses bear to gross receipts; and, secondly, on whether the rise in prices has been proportionately higher or lower than the rise in working expenses. Since the cost of *kassi* clearances is an important item in the landlords' expenses, and since this item has in some cases increased largely and in other practically disappeared since settlement, it is clear that different landlords have been affected very differently. Any general statement with regard to the effective rise in prices is, therefore, subject to qualification in individual cases, but, bearing this fact in mind, it may be said roughly that the practical rise has been on the average from 33 per cent. as a minimum in the Mailsi Tahsil to 42 per cent. in Shujabad.

Out-turns assumed.

38. The yields assumed for the principal crops were as follows :—

Rice	Nahri	...	...	400—480	seers per acre.
Jowar	Nahri	...	...	200—250	" " "
Bajra	Nahri	...	...	220—280	" " "
Til	Nahri	...	...	120—160	" " "
Cotton	Nahri	...	...	120—180	" " "
	Chahi-nahri	...	...	140—180	" " "
Indigo	Nahri	...	...	11—12	" " "
Wheat	Chahi	...	...	320—400	" " "
	Chahi-nahri	...	...	400—480	" " "
	Nahri-sailab	...	...	360—400	" " "
	Sailab	...	...	260—320	" " "
Gram	Nahri	...	...	200—240	" " "
	Sailab	...	...	180—200	" " "

The out-turns assumed were fairly full, but in no case excessive. In several cases, they exceed those adopted at last settlement, but, in this connection, it has to be remembered that the latter were average rates applicable to the areas recorded as matured during the then selected period. They were average out-turns over areas fixed according to the standard of *kharaba* allowance then prevailing, and assuming that they were about right for the purpose to which they were put, they were too low according to the standard of *kharaba* granted during the period now selected. Having regard to the greater liberality with which failed areas are now given, the present yields are probably more lenient than those assumed by Mr. MacLagan. They may be regarded as approximating fairly closely to normal yields and are, therefore, suitable as a guide to *kharaba* allowances.

39. (a) *Cash-rents*.—Except in the Atrai, the area under cash rents was too small for them to be of any practical use for purposes of assessment. They showed, however, that a large rise had occurred in the letting value of land since settlement.

(b) *Rents in kind*.—The importance of rents in kind is apparent from the figures given in paragraph 9 above. Since the share of the produce taken by the landlord often varies according to the means of irrigation, the same field does not always, or indeed usually pay the same rate in different harvests. It was therefore necessary to devise a method of calculating the average circle rate for each class of soil that would take approximate account of these harvest changes. A description of the method adopted is given in paragraph 36 of my Assessment Report of the Kabirwala tahsil, and it is only necessary to mention here that with the assumption that the whole matured area of each village was under batai rents, it was easy to allot a proper area of each class of soil to each rate of batai, and so obtain the necessary material for the calculation of the circle average.

Additions were made on account of extra dues received by the landlord and deductions made on account of taccavi allowances to tenants, the results being consolidated so as to give the owners' net share.

40. The net share so obtained did not relate to the whole of the produce. Allowance had to be made, in the first place for the menial dues paid from the common heap, and in the second place for the fodder concessions granted to tenants. Liberal allowances were made on both accounts. The deductions for menials were made after careful enquiry and averaged rather more than 12 per cent. of the value of the gross produce. No turnips or methra were included in the half-net assets estimate, and chari and miscellaneous fodder crops were included only in the Atrai Circle. Suitable deductions were made on account of green wheat used as fodder, while only a small proportion of the straw of

wheat and jowar was included, and this was valued at lenient prices and rates of yield.

41. The cash value of the share of the landlord having been calculated, it was still necessary to allow for cash payments made by him. These consisted of two items (a) Landlords' net assets. the payment of occupiers' rates; (b) the clearance cost of water channels. Ordinarily, the tenant paid the water rates, but in some villages this charge was met by the landlord, and it was therefore necessary to make a suitable credit. An approximate estimate was made of actual payments and an addition made of 25 per cent. to cover the proposed enhancement of the rates. The total sum was deducted from the assets.

The expense of silt clearance is considerable on all the inundation canals and is large in the Mailsi tahsil where it trenches on the landlords' profits. It was impossible to make even an approximate estimate of the cost, but a village-to-village enquiry was made and the results checked by such other material as was available. The allowances made were, I think, adequate, but not over liberal. For the five tahsils they amounted to Rs. 1,37,000 approximate.

42. The half-net assets estimate, framed on the lines indicated above showed that the existing demand could be substantially enhanced in every circle. In deciding what enhancement was practicable and desirable, regard had to be paid to many considerations. On the one hand, there had been a large development of resources evidenced by extensions of the cultivated and canal-irrigated areas, by the sinking of wells, the growth of population and increase in the number of agricultural stock. The cropping figures by soils showed a higher standard of security. Cash rents had arisen much and the rates of kind rents were appreciably higher. Their value, when commuted into cash, had increased roughly in proportion to the rise in the value of agricultural produce, and even when allowance had been made for additional expenses borne by the landlord, it was clear that the latter's profits were substantially larger than at settlement. A higher scale of *kharaba* allowances than had been contemplated by Mr. MacLagan had lowered the practical incidence of his assessment.

On the other hand, new resources had to a large extent come under automatic assessment except so far as protection was given to improvements made at the expense of the landlord. As I have mentioned in paragraph 19 the settlement demand would have automatically increased by 23 per cent. without any enhancement of rates, had no remissions been granted on account of protective leases. Development of resources had therefore to be discounted as a ground for enhancement, except so far as the additional wealth resulting therefrom and the increased security afforded by the construction of wells justified, in theory, a relatively higher standard of assessment. There was also the very important fact to consider that the prosperity of the people depended primarily on the inundation canals, that conditions on these are necessarily unstable and that the keen competition for tenants in the Lower Bari Doab Canal accentuates the adverse effects of unfavourable seasons. It was also felt that some regard should be paid to the fact that the rise in the standard of living made it difficult to enforce the standards of assessments adopted twenty years ago.

There were, in short, adequate grounds for a substantial increase in the demand: but there were also good reasons for the exercise of caution.

43. The system introduced by Mr. MacLagan and described in paragraph 16 above, had served both the Government and the people so well, that the wisdom of maintaining it unaltered in all essentials was almost self-evident. The general method of assessment therefore consists of a lump sum assessment on wells in association with a fluctuating assessment on all crops except pure *chahi*. The departures from this system are few and practically the same as were made at last settlement. They are as follows:—

- (a) A purely fixed assessment has been imposed in the Atraf of Multan; on the lands owned by the Khakwani Khans and their relations in the Hajiwah estates of Mailsi Tahsil; and on

four estates in the Multan tahsil of which the whole or the greater part of the revenue is assigned to wealthy jagirdars.

- (a) A purely fluctuating assessment has been imposed in the Utar Circle of Kabirwala and in part of the Rawa Circle of Mailsi. As at settlement, the demand in the Sidhnai circles includes occupiers' rates.

44. Certain changes in detail have been made. They are as follows :—
Changes of detail.

- (a) The old rule under which the second of two rabi crops was not assessed has been abolished. Each successive crop will in future be assessed.
- (b) At last settlement the total lump well assessment sanctioned for a circle was distributed over the total number of wells capable of use. It has now been applied only to the average number of wells in use during the period selected.
- (c) In the Sidhnai Circles, a uniform assessment of Rs. 5 was imposed on the wells at last settlement. The system generally in force has now been applied to these circles; the average lump sum assessment per well has been substantially increased and the assessment has been varied within wide limits from well to well.
- (d) The former assessment for Sidhnai irrigation was at flat crop rates over the whole system. Differentiation in rates has now been made as between (1) the subsidiary canals and the main canal, (2) the Kabirwala and the Multan Tahsils.
- (e) Less uniformity has been observed in the fluctuating chahinahri and nahri rates on the inundation canals. On the Chenab, for instance, higher rates have been imposed on the Sikandarabad than on other canals.
- (f) The general tendency, except in the Sidhnai circles, has been to increase the proportion that the fluctuating demand bears to the whole.
- (g) The assessment on sajji has been abolished since the income from this source is now negligible.
- (h) The assessment on village waste, which was imposed in two estates only at settlement, has not been continued.

It may, I think, be claimed that the effect of these changes will be a more equal distribution of the demand.

45. At last settlement, a separate assessment of Rs. 2,434 in Multan and Rs. 808 in Shujabad was imposed on gardens.
garden assessments. Since then, both the area under orchards and the profits derived therefrom have much increased. A special enquiry was made regarding each garden of which the gross income was considered to be more than Rs. 120 per annum. About 500 separate files were prepared, and from the material thus obtained an estimate was made of the net profits of each garden and an appropriate assessment imposed. The details of the assessment are as follows :—

					Total Assessment.
					Rs.
Multan	...	...	...	...	10,595
Shujabad	...	...	...	...	4,875
Total					15,470

In the case of new gardens in which the expenses were heavy and the trees had not all come into full bearing, the whole, or part of the assessment was postponed for a suitable period. This was apart from deferred assessments granted under the ordinary rules.

The garden assessments are fixed and not subject to remission if the well concerned falls out of use. They are additional to fluctuating assessment which is assessable under the ordinary rules.

46. The nature of the assessment and the sanctioned rates per acre matured are shown in the attached statement.
The rates sanctioned. The classes of crops are as follows :—

Class I.—Pepper, cotton, til, sugarcane, wheat, tobacco, fruits, vegetables.

Class II.—Rice.

Class III.—All other crops.

Nautor-sailab, chahi-sailab and abi crops are assessed for the first year at half the relevant fluctuating rate.

The average lump sum assessment per well in use is shown below for each circle :—

	Hithar.	Utar.	Rawa.	Sidhnai.	Hajiwah.
Multan	26	25—26	16—17	17	...
Shujabad	21-22	30	20	...	...
		Rs. A. P.	Rs. A. P.		
Lodhran	19	21 8 0	17 5 0		...
	Rs. A. P.			Rs. A. P.	
Kabirwala	17 11 0	...	..	21 11 0	...
Mailsi	19	21—22	13—14	...	26

47. In the statement below a comparison of the old and the new total demand is made and certain figures are given showing the nature of the new demand. For both the figures include remissions on wells under protective lease. The sanctioned demand by rates is according to the area figures given in the various assessment reports except for the Hajiwah and Rawa Circles of Mailsi. For the former circle a purely fixed assessment was imposed on a smaller area than that given in the assessment report and in the Rawa Circle the pure chahi subject to fluctuating assessment was less, and that subject to fixed assessment therefore greater than the areas given in the same report. In the Multan and Shujabad tahsils the sanctioned demand by rates excludes the assessment on

gardens except in the Atrah where the fixed demand sanctioned by Government was inclusive of the garden assessment:—

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Tahsil.	Circle.	PREVIOUS DEMAND.			SANCTIONED DEMAND BY RATES.			Half-net assets.	DEMAND IMPOSED.			Total.	Proportion of half-net assets taken.	Percentage enhancement of 13 on 5.	Incidence of 13 per matured acre.
		Fixed.	Fluctuating.	Total.	Fixed.	Fluctuating.	Total.		Fixed.	Fluctuating.	Gardens.				
Multan	Hithar	Rs. 31,910	79,001	1,10,911	39,310	1,05,069	1,44,379	Rs. 2,50,709	46,331	1,05,069	5,210	Rs. 1,50,610	60	29	2 6 4
	Utar	42,849	60,358	1,03,207	47,936	79,321	1,27,257	1,75,745	53,383	79,321	800	1,33,504	76	29	2 4 3
	Rawa	4,14	5,651	9,795	4,578	7,343	12,921	14,230	5,123	7,343	85	1,2,493	88	28	2 1 1 0
	Atrah	19,442	...	19,442	34,072	...	34,072	76,149	28,977	...	4,390	83,367	44	72	2 10 9
	Sidhnai	10,303	2,06,394	2,16,707	28,720	2,52,733	2,81,453	3,31,773	29,072	2,52,733	35	2,81,847	30	30	3 10 0
	Total Tahsil	1,08,653	3,51,404	4,60,057	1,55,476	4,44,466	5,99,942	8,48,606	1,56,693	4,44,466	10,465	6,11,824	72	33	2 12 7
Shujabad	Hithar	Rs. 3,763	99,727	1,03,490	41,444	1,32,083	1,73,527	2,86,500	41,414	1,32,083	1,213	1,74,710	61	29	2 3 6
	Utar	50,655	53,809	1,04,464	54,458	82,439	1,36,897	1,85,612	54,533	82,439	3,615	1,40,887	76	27	2 9 8
	Rawa	15,113	19,711	34,824	17,462	25,946	43,408	52,374	17,590	25,946	40	43,576	83	25	1 14 2
	Total Tahsil	1,01,531	1,79,247	2,80,778	1,13,364	2,40,468	3,53,935	5,24,486	1,13,537	2,40,468	4,869	3,59,973	68	29	2 4 10
	Hithar	Rs. 18,580	41,996	60,576	21,976	56,063	78,039	1,21,225	21,851	56,063	...	77,914	61	29	1 12 5
Lodhran	Utar	46,803	72,832	1,19,635	55,595	99,943	1,55,538	2,30,650	50,307	99,943	...	1,50,255	68	31	1 13 0
	Rawa	11,978	21,630	33,608	14,931	29,643	44,574	65,879	16,432	29,643	...	45,075	68	34	1 11 4
	Total Tahsil	77,164	1,36,508	2,13,672	92,522	1,85,654	2,78,179	4,17,754	93,590	1,85,654	...	2,79,244	67	31	1 12 7
	Hithar	Rs. 3,265	17,475	20,740	3,990	22,470	26,460	49,793	3,950	22,470	...	26,420	61	27	1 12 8
	Utar	240	12,428	12,668	30	16,245	16,275	27,086	60	16,245	...	16,305	60	27	1 9 0
Kabirwala	Sidhnai	19,077	4,36,159	4,55,236	77,568	5,45,942	6,23,460	7,66,123	77,228	5,45,942	...	6,23,170	61	37	3 10 6
	Total Tahsil	22,583	4,66,062	4,88,644	81,528	5,84,657	6,66,185	8,43,004	81,238	5,84,657	...	6,66,893	79	36	3 6 5
	Hithar	Rs. 15,610	43,790	59,400	12,572	56,970	69,542	1,06,037	12,485	56,970	...	69,456	65	23	1 9 4
	Hajiwah	33,181	1,550	34,731	46,048	2,893	48,941	67,095	45,296	2,893	...	48,179	72	52	1 12 4
	Utar	31,421	63,028	94,449	36,538	85,770	1,22,308	1,86,204	36,338	85,770	...	1,22,028	66	29	1 7 8
Mailsi	Rawa	3,065	12,225	15,290	3,354	16,437	19,791	23,214	8,844	16,437	...	19,215	82	26	1 5 0
	Total Tahsil	75,396	1,20,768	1,96,164	96,482	1,61,080	2,57,562	3,82,600	98,003	1,61,080	...	2,59,477	68	32	1 8 7
	Hithar	Rs. 3,853	12,533	16,386	5,413	16,162	21,575	30,140	5,432	16,162	...	21,575	72	32	2 6 10
	Utar	12,533	12,533	25,066	12,533	12,533	25,066	37,599	12,533	12,533	...	25,066	72	32	2 6 10
	Total of 5 Tahsils	3,853	12,533	16,386	5,413	16,162	21,575	30,140	5,432	16,162	...	21,575	72	32	2 6 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TAHSIL.	PREVIOUS DEMAND.			SANCTIONED DEMAND BY RATES.			Half-net assets.	DEMAND IMPOSED.			Proportion of half-net assets taken.	Percentage enhancement of 12 on 4.	Incidence of 12 per matured acre.	
	Fixed.	Fluctuating.	Total.	Fixed.	Fluctuating.	Gardens.		Total.						
Multan
Shujabad
Lodhna
Kabirwala
Mahid
Total

The enhancement on the old demand was thus 32·8 per cent. for the five tahsils as a whole and varied from a maximum of 36 per cent. in Kabirwala to a minimum of 28 per cent. in Shujabad. The proportion of the half-net assets taken was 72 per cent. for the five tahsils and was larger in the Multan and Kabirwala tahsils than elsewhere owing to the existence of a consolidated rate in the Sidhnai circles.

48. The new total demand is Rs. 21,76,043. as compared with a forecast estimate of Rs. 20 lakhs. The ultimate enhancement amounts to Rs. 5,36,733, that is to say, this is the amount by which the old total demand will be increased on the average, when all protective leases fall in and if the cropping and the number of wells in use are on the average, the same as during the selected years. These conditions will not, of course, be fulfilled and the ultimate increase is likely for various reasons considerably to exceed the sum given above.

The immediate enhancement will be substantially less than the above amount. I estimate that more than Rs. 2 lakhs will be deferred on account of protective leases, and of this it may be assumed that about Rs. 80,000 represents the increase in the assessment on protected wells. Allowance has also to be made for a relatively small sum deferred in the Hajiwah estates, the Atrah of Multan and on gardens. The immediate enhancement will be about Rs. 4½ lakhs.

49. For most of the circles the statements contained in paragraphs 46 and 47 sufficiently illustrate the nature of the new assessment, and I shall therefore confine particular remarks to those circles characterised by special features.

(a) *Atrah-Multan*.—In this circle cultivation is intensive, cash rents are high, and special crops sell at high rates. The leniency of the previous demand made a large enhancement inevitable, but the new demand represents 44 per cent. only of the half-net assets. The sudden increase in the demand has been tempered by progressive assessments.

(b) *Utar-Shujabad*.—A feature of the previous assessment of this circle was the relatively high assessment on many wells. In order to avoid a further considerable increase in the well assessments, the rate on irrigation from the Sikunderabad Canal was put at 2 annas per acre matured above that of the other Chenab Canals, so that the enhancement was taken mostly in the fluctuating demand.

(c) *Hajiwah Mailsi*.—In this circle the lands owned by the Khakwani Khans and their relations are under a purely fixed assessment, while other lands are assessed in the same way and at the same rates as in the neighbouring Utar Circle. In calculating the half-net assets of the Khans' lands a credit was allowed to them of the full amount of the occupiers' rates plus 25 per cent. on account of the proposed enhancement of the rates on the Government Canals. They were thus given the full benefit of the concession of the privileged water rate of 12 annas per acre imposed on their lands.

(d) *Rawa-Mailsi*.—A purely fluctuating assessment has been imposed on well lands outside irrigation limits, but the condition has been made that if any well is given canal irrigation, it shall be assessed to a fixed lump sum assessment and, in addition, pay the ordinary fluctuating rates on all crops except chahi. The lump sum assessment should be Rs. 14, the average well assessment of the circle. Conversely, if in this circle a well is definitely excluded from irrigation, the owner shall have the right to claim that the fixed well assessment be replaced by a fluctuating rate of Re. 1-2-0 per matured acre on chahi crops.

(e) *Ghulamwah irrigation*.—The Ghulamwah canal is privately owned and under private management. The greater part of the land irrigated by the canal is owned by the owners of the canal, but a small area so irrigated is owned by other persons. The latter pay 10 annas per acre matured for flow irrigation and 8 annas per acre matured for lift; and, in addition, they are liable for *chher*. At last settlement the canal advantage revenue rate for flow irrigation was put at 6 annas lower than the corresponding rate on the Government canals. At this settlement a difference of 8 annas has been allowed, this lenient treatment being justified by two

considerations firstly, by the fact that the enhancement of the rate from 8 annas to 11 annas represented an increase of 37·5 per cent., which was sufficiently large; and, secondly, by the desirability of leaving the owners of the canal a reasonable margin for enhancement of the rates they charge from outside owners.

No occupiers' rates are levied on this canal, but, as noted in paragraph 57, a royalty is payable by the owners.

50. (a) Since the distribution of the fluctuating assessment is automatic, the main object of village inspections was the correct classification of estates with reference to the well assessments that they should pay. For this purpose special regard was paid to the cropping figures, the nature of the canal irrigation, the rent rates, the circumstances of the owners and the expenses they had to bear. A consideration of these different factors allowed an approximately correct estimate to be made of the economic capacity of an estate, and enabled one to decide roughly how the assessment to be imposed ought to compare with the assessment at sanctioned rates. But a mere comparison with the demand by sanctioned rates was not by itself sufficient to determine the assessment. It was necessary to bear in mind that the average assessment per well in a particular estate was also an important guide to the character of the assessment to which due regard had to be paid. Thus it often happened that in poor villages the assessment at rates brought out an average assessment per well very much below the circle average, or, in other words, that the cropping figures automatically took into account many of the factors to which the village owed its inferiority. On the other hand, in some villages, the assessment at rates actually tended to conceal sources of weakness and this was especially the case in estates where the proportion of chahi crops was large. In order to avoid pitfalls, it was therefore necessary to combine two guides to assessment, firstly, the demand at sanctioned rates and secondly, the average well assessment of the circle. These taken together enabled a fair distribution of the demand over estates.

As previously explained, the sanctioned demand for a circle related to the average number of wells in use during the selected period and not to the total number in use or capable of use at the time of announcement. For each village it was therefore necessary to fix the demand for the average number of wells in use and then to add an appropriate sum for other wells, the average for the latter being rather less than for the former since the wells most often out of use are inferior wells. The order of announcement was in the following form :—

Average number of wells in use	...	...	...	25	(1)
Total number of wells	...	...	...	30	(2)
Assessment on (1) at rates	...	...	...	Rs. 510	
Assessment imposed on (1)	...	...	...	Rs. 500	
Assessment imposed on other wells	...	...	...	Rs. 90	
Total assessment	—	...	...	Rs. 590	
Average assessment per well in use	...	...	...	Rs. 20	

(b) *Over holdings.*—The total assessment on all wells in a village having been determined, it was necessary to distribute this over the well a matter of more importance even than the distribution over estates, since the difference between wells in the same village are often very marked. Special attention was therefore paid to this subject. An enquiry was made in each estate with the primary object of grading the wells according to their permanent characteristics. As a guide thereto a statement was prepared showing for each well the total matured area for each of the selected years, the average for the period and the average area matured with the aid of the well. These figures were compared with corresponding averages for the whole village. The zamindars were then asked to grade their wells and this grading was revised by the Naib Tahsildars, if, as was generally the case, revision was desirable. Every effort was made to discover those qualities which placed the well either above or below the village average. Temporary factors were ignored. Of this character were the fortuitous non-use of the well for a year or two, cultivation by poor tenants and the inadequate equipment of the well with cattle when these defects were not due to any definite cause. Among the permanent factors which place a

well above the normal were included:—good flow irrigation; small clearance expenses; good soil; high rents; assistance from sailab and proximity to the village site; while among the permanent defects were counted:—irrigation by lift; no canal irrigation at all and no assistance from sailab; poor soil; high clearance expenses; low rent; brackish water or some structural defect. Finally, the grading of the wells was checked by the assessment officer in the presence of the zamindars. In Kabirwala and Mailsi this was done just before announcement of the demand, but in Multan and Shujabad the early preparation of the well files allowed me to do this work at the time of village inspections and in Lodhran also most of the checking was done at that time. The work was very heavy, and involved the assessment of every well by the assessment officer. The system, however, was well worth the trouble taken, and has, I believe, resulted in a very fair distribution that has given general satisfaction. In many ways it was the most important part of the assessment.

In the estates under purely fixed assessment the bachch was simple except in the Atraf of Multan where local conditions demanded somewhat elaborate methods of distribution. It may be said, briefly, that in that circle the bachch was made according to average cropped areas after adjustments had been made on account of (1) lift irrigation, (2) proximity to the city, (3) inclusion within octroi limits, (4) the facilities for obtaining manure. The principles adopted were fully discussed with the revenue payers and were accepted by them, although they involved drastic changes in the existing distribution.

51. The new assessment has been or will be introduced from the following harvests in the various tahsils:—
Introduction of the demand.

Kabirwala	...	...	...	Kharif 1919.
Mailsi	...	...	...	Kharif 1920.
Multan, Lodhran and Shujabad	...	...	...	Kharif 1921.

In the three tahsils last named the old assessment expired with the rabi harvest of 1920, but, as the kharif of that year and the following rabi were both very much below normal, the introduction of the new demand was postponed for a year.

It may be noted that the well part of the new assessment came, or will come into force in the rabi following the kharif harvest mentioned, since the kharif instalment of the well assessment is determined by the number of wells in use in the previous rabi.

52. The fluctuating portion of the demand is realizable in the harvest on which it is assessed. The instalments by which the well assessment is to be paid vary from village to village according to local conditions and the wishes of the revenue payers. Generally, the kharif instalment has been fixed at considerably less than the rabi instalment, but in fixing the proportions due regard has been paid to the fact that the rates on well-aided crops generally absorbed considerably more of the half-net assets than the rates on canal crops, and that it was therefore desirable, in order to distribute the demand fairly between the two harvests, that a portion of the well assessment should be paid in the kharif. The previous dates for the payment of revenue were convenient and have been retained. They are as follows:—
Instalments.

Kharif	...	...	15th December and 15th January.
Rabi	...	...	15th June and 15th July.

53. With regard to the working of the settlement it is only necessary to draw attention to the important part that kharaba allowances take in the system of assessment. It is essential that the Collector should watch carefully harvest by harvest how kharaba is being given, that he should not hesitate to give liberal allowances in bad years, and that he should insist on allowances in good and average years being confined to a moderate standard. The defect in the past has been the grant of too much kharaba in good years, too little in bad years and the partiality shown to large owners in all years.
Working of the settlement.

CHAPTER V.—MISCELLANEOUS.

54. The preceding chapters relate solely to the five tahsils brought under re-settlement. In addition, a small portion of the Khanewal tahsil was re-assessed. This consisted of 35 estates situated along the Ravi in the extreme north of the tahsil and lying wholly or partly outside the existing irrigation limits of the Lower Bari Doab Canal. For all other lands outside irrigation limits the previous assessment was not changed.

The economic features of the villages in question resembled very closely those of the adjacent Utar Circle of Kabirwala, the outstanding characteristic being the scarcity of cultivators owing to the keen competition for tenants in adjacent estates of the Colony. For crops other than canal irrigated, the same rates were sanctioned as for the Utar of Kabirwala, while for canal-irrigated crops the rates are those of the Sidhnai for Sidhnai irrigation and Rs. 2 per acre matured for irrigation from the Lower Bari Doab Canal.

The estimated increase in revenue was Rs. 1,020, or 25 per cent. on the previous demand. The new assessment was introduced with effect from Kharif 1920 and the term of settlement is, in the first place, for two years only.

55. In accordance with previous practice, fruit-bearing date-palms were assessed to land revenue. With the exception of a few villages along the Ravi where the palms had deteriorated owing to lack of irrigation, there had been a large increase in the profits of owners due generally to the rise in value of the fruit and, in particular, to the increase in the number of trees. In several tahsils, the trees had so multiplied as to place a definite limit on the enhancement in rates, and it may be said that the sanctioned charges per tree are very moderate indeed when compared with the average profits that accrue.

The salient facts of the assessment are exhibited in the following statement:—

	Multan.	Shujabad.	Lodhran.	Kabirwala.	Mailsi.	Total.
Trees assessed at last Settlement ...	127,292	51,046	37,113	39,414	44,670	299,535
Existing demand previous to re-assessment, Rs.	9,772	2,949	2,555	3,530	3,653	22,459
Rate per tree imposed at last settlement, Rs.	0-1-4	0-1-0	0-1-3	0-1-5	0-1-4	0-1-3
Number of trees now assessed ...	134,227	101,657	40,717	44,407	51,656	372,664
Sanctioned rate per tree, Rs. ...	0-1-9	0-1-0	0-1-9	0-1-6	0-1-6	0-1-6
Assessment at sanctioned rates, Rs.	11,863	8,354	4,453	4,163	4,543	31,476
Assessment actually imposed, Rs.	14,816	6,292	4,815	4,298	4,565	34,589
Increase per cent. on previous demand ...	40	112	88	22	33	54

No assessment was made in villages where the number of trees would have yielded a few rupees only, and the rate from village to village was varied according to local circumstances.

In the villages of the Khanewal tahsil the assessment was increased from Rs. 4,149 to Rs. 5,169.

56. Generally, the element of fluctuation in the assessment is so large that little occasion should arise for the suspension or remission of ordinary land revenue. A general exception is the destruction by hail in the rabi of well-aided crops. When this occurs, the Collector should consider the case of each well separately and have a statement prepared showing the area by crops sown and matured by the aid of the well. If the actual return to the landlord is very small relative to the lump sum assessment on the well, the Collector should propose for remission the whole or an

appropriate portion of the well assessment. Particular cases may also arise in which relief is desirable. Of this character is the failure of a well in the course of the rabi harvest after some irrigation has been given from it, or the cultivation of a few bighas only on a well with a relatively high assessment. Each case should be dealt with on its merits, but the Collector should be guided by the consideration that as the system of assessment provides for all but very exceptional cases, he should exercise great caution in recommending concessions.

The assessment on gardens is fixed for the term of settlement. Cases may, however, occur in which a garden either dries up or greatly deteriorates in value owing to no fault of the owner. It may then be desirable to recommend a permanent reduction in the demand; but no such recommendation should be made in the case of a garden that has been cut down by an owner prior to an application for a reduction of the demand.

Similarly, a reduction on the date assessment may be called for in the rare cases where in any particular village a large number of the trees assessed to revenue have dried up since settlement. Under the ordinary diluvion rules reduction will be given on account of trees swept away by the river.

57. At last settlement a royalty or seigniorage due (hakk shahi) was imposed on the owners of the Ghulamwah private canal in return for the privilege of drawing water from the river. With the consent of the present owners, the amount of the royalty has been increased from Rs. 500 to Rs. 750.

58. A register has been prepared embodying my proposals for the reduction of the number of lambardars in particular villages. For several reasons the recommendations relate to few cases. The prospects of large extensions of the irrigated area within a few years had to be kept in view; the recent orders of the Financial Commissioner on the subject very considerably narrow the scope within which recommendations can be made; and finally, although in some villages the number of lambardars is clearly excessive it is not always possible or desirable to make specific proposals on the basis of existing circumstances. The advisability or otherwise of reduction is often a question of opportunity.

59. Assignments of land revenue are generally of a straight forward character and their review presented little difficulty. In addition to the preparation of new general and tahsil registers, the English Register has been brought up to date and a genealogical tree added for each case.

Miscellaneous questions.

60. Reports have been submitted on the following questions :—

- (1) Revision of the occupiers' rates on the inundation canals.
- (2) Water charges on the Hajiwah Canal.
- (3) Canal Credits.
- (4) Protective Leases on wells
- (5) Tirni.
- (6) Revision of zaildari and sufedposhi arrangements.
- (7) Revision of the revenue establishment.
- (8) Waste land leases.
- (9) Urban Assessments.

At the time of writing no orders have been received on any of these reports.*

61. The Settlement commenced on 1st October 1917 and practically closed on 30th April 1921 after which little remained to be done.

Operations thus lasted considerably less than the period anticipated in the forecast report.

*The orders since received have been incorporated in the form of appendices, *q. v.*

he details of expenditure are shown in Appendix III. The total cost will be approximately Rs. 5,36,200 as against an estimate of Rs. 4,92,320. The excess is fully explained by the increase made during settlement to the salaries of every class of official employed and by the great rise in the cost of all materials. Having regard to the extra charges involved, it may be claimed that operations have been carried through as economically as possible. The total cost will be met by the amount of the ultimate increase of a single year's demand.

62. At the time of announcement of the assessment in each tahsil it was explained to the revenue payers and all concerned that the settlement would be liable to revision in any village or throughout a tahsil on the introduction of improved irrigation whether from the Lower Bari Doab Canal, or, as a result of the Sutlej, Haveli or other projects. Subject to this proviso and on the assumption that Government can in law fix a term of settlement subject to curtailment if certain conditions are fulfilled, I would recommend a term of 30 years. The system of assessment provides for the automatic assessment of new resources as they come into being, and so meets what would otherwise be a strong objection to a long period of settlement. If, on the other hand, a term of settlement once fixed under section 53 of the Land Revenue Act cannot be curtailed, then it will be undesirable in view of the various canal projects under consideration, to fix a term of more than 5 years. If it is necessary on legal grounds to fix a short term, it will be desirable to make it generally known that there is no intention to revise the settlement at the end of the period unless an improved system of irrigation dependent on a masonry weir has been introduced.

63. Pandit Nand Lal Tikku has served throughout the Settlement. He officiated as Settlement Officer during my absence for 4½ months and he was responsible for the assessment of the Lodhran tahsil. The revision of the Rivaj-i-am was done by him and as Extra Assistant Settlement Officer he was in charge of measurement and record work in the Kabirwala, Mailsi and Lodhran tahsils. Already fully experienced in most branches of settlement work, he has further obtained a thorough grasp of the principles and practice of assessment and is now well qualified to conduct a settlement. His relations with the staff and the people have been cordial, and he has maintained a high standard of discipline with a minimum of friction. I would bring his services to the special notice of Government.

Lala Diwan Chand Nayyar was in charge as Extra Assistant Settlement Officer of the measurements and records of the Multan and Shujabad tahsils. His work was characterised by thoroughness and sound judgment, and he exercised efficient control over his subordinates.

Of the Tahsildars, M. Ihsanullah in Lodhran and Sardar Budh Singh in Multan did exceptionally well. The latter had a very difficult tahsil, but his long experience as District Kanungo enabled him to cope successfully with all difficulties, while his personal attention to details ensured a very creditable standard of accuracy. M. Ihsanullah has been accepted as a candidate for the post of Extra Assistant Commissioner for which his abilities and cordial relations with the people eminently qualify him.

The success of a Settlement depends very largely on the staff of Naib-Tahsildars, and in this respect I was fortunate in that the proportion of poor workers was relatively small. Among those who did specially well I would mention Muhammad Naim, who did excellently in Kabirwala; Sardar Kundan Singh - a Tahsildar candidate, who showed exceptional keenness and ability; M. Hassan Din, who in Mailsi and Lodhran did very valuable work to the complete satisfaction of the people and myself in the classification of wells; Lal Chand, who carried through the work of the difficult Shujabad circle with efficiency and impartiality; and M. Muhammad Ahsan, who in the field and later as my reader proved himself a first class worker in every way. Of the remaining Naib-Tahsildars Chaudhri Rahim Bakhsh, M. Said Ahmad, Lala Gian Chand, Sardar Vir Singh, Lala Fateh Chand, M. Akmal Din and S. Mehr Hussain Shah and Lala Hira Nand worked hard and well. Complaints against the superior staff were singularly few and their relations with the people and among themselves were generally friendly.

The Kanungos were a mixed lot and many were disappointing. On the other hand, there were many who did really well. Lala Keshori Lal and M. Abdul Ghani were selected as Naib-Tahsildar candidates, and I have recently recommended M. Ahmad Nur, Lala Mul Raj and Munshi Lal Chand for acceptance. There were several others worthy of recommendation had there been sufficient vacancies. On the whole, the Kanungo staff worked loyally in spite of their dissatisfaction with the then conditions of service.

The Multan Patwari has plenty of work to do under ordinary circumstances. Settlement threw a heavy burden on him which he carried well. During the general agitation amongst Patwaris there was some slackening off in work, but the local Patwari were wisely guided by the advice of their officers. I record my appreciation of the willingness with which they carried through one task after another.

Of the office staff M. Hassan Bakhsh gave satisfaction as District Kanungo, while M. Lakhmi Dass and later M. Muhammad Bakhsh efficiently performed the duties of head clerk.

Orders required.

64. Orders are required on the question of the term of settlement (paragraph 62).

H. W. EMERSON,

Settlement Officer.

The 16th April 1921.



APPENDIX I.

OCCUPIERS' RATES.

THE subject of the levy of the occupiers' rates on the area irrigated by the Inundation Canals of the Multan District excluding the Hajiwah and Ghulamwah canals, in the Mailsi Tahsil, has been dealt with in the correspondence noted on the margin and the orders of Government are contained in its Memorandum No. 475-S. R., dated 28th May 1921. The rates sanctioned are as below :—

	<i>Flow.</i>			<i>Lift.</i>		
	Rs.	A.	P.	Rs.	A.	P.
<i>Class I.</i> —Rice, gardens, peppers and sugarcane ..	3	0	0	2	4	0
<i>Class II.</i> —Cotton, til	2	4	0	1	11	0
<i>Class III.</i> —Other Kharif crops	1	12	0	1	5	0
<i>Class IV.</i> —Rabi crops	1	2	0	0	13	0

There will be no charge for river spill alone and for river and canal spill mixed, but for canal spill alone ordinary charges, both occupiers' rates and water advantage rates, will be levied. The Deputy Commissioner will, however, have power to levy occupiers' rates and canal advantage revenue in all cases where he is satisfied that a breach has been deliberately made in the canal other than by the Irrigation Department.

Irrigation on grass lands may be assessed at half Rabi rates at the discretion of the Deputy Commissioner.

In future *dofasli* in the Rabi in the Tarafs of Multan should be included in estimating the fixed demand.



APPENDIX II.

CANAL CREDITS.

THE question of canal credits to be afforded to the Irrigation Branch of the P. W. D. is discussed in the correspondence noted on the margin.

Settlement Officer's No. 693, dated 9th August 1920, with enclosure.
Commissioner's No. 1480, dated 29th October 1920.

Settlement Officer's No. 1377, dated 31st March 1921.

Senior Secretary to Financial Commissioners Punjab's No. 411-17-C-3, dated 11th May 1921, with enclosures.

The ultimate result of the Government Orders is as follows:—

A.—Inundation Canals other than Sidhnai and Hajiwah.

- (a) *Direct Credits.*—These consist of occupiers' rates and other direct charges for water, produce, buildings, fines, etc.
- (b) *Indirect Credits on the Chenab Canals.*—
 - (i) The whole of the fluctuating canal advantage rate on Chenab irrigation in all tahsils.
 - (ii) Half of the actual realizations of well assessments in the whole of the Multan and Shujabad tahsils except the Sidhnai Circle of Multan.
 - (iii) An additional sum of Rs. 6,000 per annum.
- (c) *Indirect Credits on the Sutlej Canals except Hajiwah.*—
 - (i) The whole of the fluctuating canal advantage rate on the Government Canal (excluding the Hajiwah) in Mailsi, Lodhran and Shujabad tahsils.
 - (ii) Half of the actual realizations of well assessments in the whole of the Mailsi and Lodhran tahsils except in the Hajiwah Circle of Mailsi.
 - (iii) An additional sum of Rs. 2,000 per annum.

B.—Hajiwah Canal.

- (a) *Direct Credits.*—These consist of occupier's rates.
- (b) *Indirect Credits.*—
 - (i) The whole of the fluctuating canal advantage revenue.
 - (ii) A lump sum credit of Rs. 38,000 annually on account of fixed canal advantage revenue.

C.—The Sidhnai.

- (a) *Direct Credits.*—This consist of half of the consolidated rate in both harvests.
- (b) *Indirect Credits.*—
 - (i) Half of the consolidated rate in both harvests.
 - (ii) One-third of actual collections of Sidhnai aided wells.
 - (iii) Malikana and interest on purchase money less a debit of Rs. 18,937 on account of loss of grazing and forest dues, *Kasht barani* and increased cost of Civil administration.

The whole collections from the Sidhnai consolidated rate are now credited in the Treasury as Land Revenue, adjustment being made by the Accountant-General.

APPENDIX III.

TIRNI.

THE subject has been discussed in the correspondence noted in the margin. The following instructions have been sanctioned by the Government as to the working of the Tirni arrangements in the Multan District :

Settlement Officer's No. 1080, dated 12th January 1921, with enclosures.
 Commissioner's No. R.-T.-4-11, dated 8th February 1921
 Senior Secretary to Financial Commissioners' No. 4-21-19-B-18, dated 12th May 1921.
 Punjab Government Memorandum No. 877-S. R., dated 8th June 1921.

I.—The legal basis of the Tirni arrangements is to be found in the rules published by Punjab Government notification No. 1086, dated 11th August, 1900 (paragraph 767, Land Administration Manual). The following instructions are subject to these rules.

II.—Camels will be treated on the "Village contract" system only, so that no fees will be charged for non-contract camels. Camels belonging to the district will be assessed as heretofore by *jhoks* and *thokdars* with a fixed quinquennial assessment in return for which they will be free to graze in all Government waste in the district. The assessment will be made under rule 10 and in making it the Collector should pay regard to the following considerations :—

- (a) The former assessment.
- (b) The number of camels over one year of age.
- (c) The assessment on (b) at the standard rate of Re. 1-4-0 per head per annum.

The Collector should exclude from assessment those camels in regard to which he is satisfied that they make no use of the Government waste.

III.—Camel Tirni should be payable on 15th July in each year and its collection should, under Rule 14 (2), be entrusted to the *thokdar*, who under Rule 15 will be entitled to a draw-back of 5 per cent. on the sums paid by him into the Government Treasury.

IV.—For cattle, exclusive of camels, the ordinary arrangement will be under the village contract system which will be applied to those villages which are near or adjacent to large blocks of Government waste and which regularly graze their cattle in it.

V.—To such villages a quinquennial assessment will be offered. In making the assessment, the Collector shall exempt all horses, donkeys and mules; all bulls, bullocks and male buffaloes; cows and cow-buffaloes under three years of age; sheep and goats under six months of age. He will ascertain, as far as possible, the number of remaining animals and, as a guide to assessment, shall apply the standard rates as follows :—

For each cow-buffalo not exempt	...	...	14 annas
For each cow not exempt	...	...	6 „
For each sheep and goat not exempt	...	...	1 anna

He will further take into consideration the former assessment and any other relevant circumstances. The assessment shall be payable on July 15th in each year, and the *Lambar-dar* or *thokdars* to whom the collections are entrusted shall be entitled to a draw-back of 5 per cent. on sums paid by him into the Government Treasury.

VI.—If all villages of the kind described in instruction IV accept reasonable contracts no further action shall be necessary.

VII.—If any such village does not accept a contract, the Collector will then consider the question of introducing the entrance fee system into the area in which such village grazes; but he should, so far as this is possible, limit each area under the entrance fee system to the area grazed by the adjacent villages formerly under contract but which refuse to accept reasonable contracts.

VIII.—When he has decided to introduce the entrance fee system into any area, he should clearly define the limits of that area and should lease the area to a farmer. These leases should be auctioned in the beginning of September and should run from the first October. They should be for one, two or three years, as the Collector may determine; but he should arrange the periods so that the quinquennial assessment will terminate in the same year as the entrance fee lease.

IX.—It shall be specifically stated in each lease that it applied only to cattle inclusive of camels belonging to non-contract villages and under rule 5 (1) (c) the following special conditions shall be inserted :—

- (1) That the permission referred to in Rule 3 (ii) shall be in writing on a form prescribed by the Collector.
- (2) That no one who tenders payment shall be refused permission to graze his cattle without the sanction in writing by the Collector.

- (3) That the farmer may claim to be provided annually by Government with a list of the owners of cattle (but not of the cattle owned by them) belonging to contract paying villages in the neighbourhood of the area leased to him.

X.—The maximum fees, the farmer may levy, shall be as follows :—

For each buffalo, male or female	...	...	...	14 annas
For each cow or ox	...	...	...	6 „
For each sheep or goat...	...	...	...	1 anna

provided that no fees shall be leviable on any animals not specified above, or on sheep and goats of less than six months of age or on buffaloes, cows or oxen of less than 1 year of age.

XI.—The terms of instalment of lease money shall be—

1/5 earnest money, and of the rest 1/2 on January 15th and 1/2 on the 15th August following.

XII.—To assist farmers in collecting their dues, Collectors may, at their discretion, authorise Tahsildar to issue demand statements on defaulters free of charge for balances certified by the farmers; but no such condition should be entered in the lease, and if recovery is not made on the demand statement, the farmer must be left to his own resources.

XIII.—In any year when the grass fails the Collector should make suitable recommendations for the remission of the whole or part of the assessment or lease money in the contract villages and lease area concerned.



APPENDIX IV.

ZAILDARS.

At last settlement owing to changes in the tahsil and thana boundaries, the zails were re-constituted and arrangements were sanctioned to remunerate the zaildars by fixed grade pay instead of allotting to each one per cent, of the revenue realized from his zail. Now one new zaildar has been added in the Shujabad Tahsil, thus bringing the total number of zails in the district from 62 to 63. Another small change made is that Mauza Jalilpur has been transferred from the Tulamba Zail of the Khanewal Tahsil to the Mitharan Zail of the Kabirwala Tahsil. No alteration has been made in the limits of the remaining zails.

The old grading has been revised and the remuneration of the three grades has been raised from Rs. 250, Rs. 200 and Rs. 150 to Rs. 350, Rs. 300 and Rs. 250 respectively. The revised grading sanctioned is as follows :—

	<i>1st Grade.</i>	<i>2nd Grade.</i>	<i>3rd Grade.</i>	<i>Total.</i>
Multan	... 4	8	3	15
Shujabad	... 3	6	3	12
Lodhran	... 3	5	3	11
Kabirwala	... 3	8	3	14
Mailsi	... 3	5	3	11
	<hr/>	<hr/>	<hr/>	<hr/>
Total	... 16	32	15	63
	<hr/>	<hr/>	<hr/>	<hr/>



APPENDIX V.

INAMDARS.

At last settlement the grades of inamdars on Rs. 30 and Rs. 25 respectively were sanctioned, the total number of inamdars in the 5 tahsils, as at present constituted, being 99. The system established, however, proved a failure, for the reasons that the number of inamdars was too large, their remuneration too small and their distribution defective. A new scheme was sanctioned by the Financial Commissioner, Punjab, in his Senior Secretary's letter No. 61-103-1, dated 18th May 1921, under which the number of inamdars was reduced to Rs. 51 and remuneration of two grades was raised to Rs. 100 and Rs. 75 respectively. The final result of this scheme would be that each zail would have one inamdar and one only with the exception of the following zails for which none would be required :—

Multan	...	...	Binda Sindila ; Mohammadpur Ghota ; Kabirpur.
Shujabad	...	...	Jalalpur Khaki ; Jahanpur ; Motha.
Kabirwala	...	...	Kund Sargana ; Mungawala.
Mailsi	...	...	Sahuka ; Mustafaabad ; Hajiwah ; Muradpur.

The distribution and grading would be as below :—

			1st Grade.	2nd Grade.	Total.
Multan	...	...	6	6	12
Shujabad	...	...	4	5	9
Lodhran	...	...	5	6	11
Kabirwala	...	...	5	7	12
Mailsi	...	...	3	4	7
			<hr/>	<hr/>	<hr/>
Total	...	...	23	28	51
			<hr/>	<hr/>	<hr/>

The reduction of inamdars to the number now sanctioned will be carried out in the manner proposed in paragraph 10 of the Settlement Officer's report, dated the 6th January 1921.

The scheme may be summed up as follows :—

(a) *Four Tahsils—*

First appointments 44 at Rs. 75.

Subsequent promotions to Rs. 100 as funds become available up to a total of 20.

(b) *Mailsi*

First appointment—

1 at Rs. 100.

6 at Rs. 75.

Two further appointments to first grade as funds become available.

The sum allotted for the remuneration of inamdars amounts to 2/3rds of the land revenue in the Sidhnai Circle and 1/4 per cent. elsewhere. They will be subject to the general *inam* rules and to the special condition that, if an inamdar becomes a zaildar, he will forfeit his *inam*. An inamdar will have to perform the duties of zaildars and the Police and Revenue officials will see that they do their work satisfactorily and do not look upon their posts as sinecures.

The scheme shall take effect from kharif 1921, or as soon after as the needful preliminaries can be completed.

APPENDIX VI.

RULES SANCTIONED BY GOVERNMENT IN 1921 REGARDING ASSESSMENT ON WELLS DURING THE TERM OF THE IV SETTLEMENT NOW BEING INTRODUCED.

A

In estates under entirely fixed assessment or in which a lump sum assessment is imposed on each well.

1. These rules apply to all masonry wells whether made with the aid of *taccavi* or not. They do not apply to unlined wells or to wells half lined with masonry.

2. For a new well made during the term of settlement, a protective lease shall be given for the period prescribed for the assessment circle in which it is situated. The lease will commence in the agricultural year in which the well is brought into use. For the period of exemption such lease shall exempt the well and the area attached to it from any additional fixed assessment during the term of settlement, and thereafter shall entitle the owner to a lump sum remission out of the fixed assessment, if any, imposed on well. Such lump sum remission shall be entered in the lease and for each assessment circle shall be the amount determined for that village by the Settlement Officer in the fourth regular settlement. The period fixed for the several assessment circles are :—

Multan	{	Hithar	...	...	20 years.
		Utar	...	...	25 "
		Rawa	...	...	40 "
		Atraf	...	...	20 "
		Sidhnai	...	...	25 "
Shujabad	{	Hithar	...	...	25 "
		Utar	...	...	25 "
		Rawa	...	...	40 "
Lodhran	{	Hithar	...	...	20 "
		Utar	...	...	30 "
		Rawa	...	...	40 "
Mailsi	{	Hithar	...	...	20 "
		Hajiwah	...	...	20 "
		Utar	...	...	30 "
		Rawa	...	...	40 "
Kabirwala	{	Hithar Chahi	...	...	25 "
		Sidhnai	...	...	25 "

3. Rule II shall apply also to a new well sunk in place of a well incapable of use; provided that the Deputy Commissioner may, subject to appeal to the Commissioner, refuse to grant a lease, if he has good reason to believe that the old well has been deliberately rendered incapable of use in order to escape the payment of fixed assessment assessed on it, and he may then impose on the new well the well assessment of the old well.

4. Rule II shall apply also to a new well sunk to irrigate part of the area already irrigated by an existing well; provided that the Deputy Commissioner may, subject to appeal to the Commissioner, (a) impose on the new well the whole or any part of the well assessment of the old well in any year during the currency of the lease in which he has good reason to believe that the old well has been kept deliberately out of use in order to avoid the payment of the well assessment assessed on it; (b) cancel the lease if he has good reasons to believe that the old well has been deliberately rendered incapable of use in order to evade the payment of the well assessment, and he may then impose on the new well the well assessment of the old well.

5. If the term of exemption granted under the above rules expires before the introduction of a new settlement, the new well will, until such introduction, pay such fixed assessment as may have been determined for the purpose by Settlement Officer.

6. In an estate in which the assessment is not entirely fixed, when a well falls out of use for any cause, the fixed well assessment imposed on it at settlement or subsequently under Rule 5 will be remitted from the first Rabi harvest in which the well was out of use; but, when the well is again brought into use, the fixed well assessment formerly imposed on it will, unless remitted under a protective lease, be reimposed with effect from the first Rabi harvest in which the well is in use.

7. In an estate in which the assessment is entirely fixed when a well which at settlement was capable of use is declared by the Deputy Commissioner to be incapable of use, he shall remit from such harvest, as he may determine, such part of the fixed assessment as has been fixed for the purpose for that estate by the Settlement Officer.

8. When an old well which has been declared incapable of use by the Deputy Commissioner is repaired and made fit for use, a protective lease shall be given, exempting the well from the well assessment imposed on it at Settlement, or in estates, in which the assessment is entirely fixed from a part of the fixed assessment determined for the purpose for that estate by the Settlement Officer.

The period of such exemption shall commence from the agricultural year in which the well is brought into use and shall be fixed by the Deputy Commissioner so as to recoup the owner for actual expenses incurred, provided that it shall not exceed 15 years without the sanction of the Commissioner.

9. When a well capable of use is repaired, a protective lease shall be given as under Rule 8 ; provided that no exemption shall be given for an expenditure of less than Rs. 50 or for any expense incurred in the repair or replacement of wood-work of the well, and that the period of exemption shall not exceed 10 years without the sanction of the Commissioner.

B.

In Estates in which the assessment is purely fluctuating.

1. Rule 1 of A.

2. For a new well made during the term of settlement a protective lease will be given for 40 years from the agricultural year in which the well is brought into use, exempting the well from assessment on the pure Chahi crops irrigated by it ; provided that the conditions and period of the lease shall be liable to revision if and when the well area receives canal irrigation.

3. Rule II shall apply also to auxiliary wells and wells sunk in place of wells become incapable of use.

4. When an old well which has been declared incapable of use by the Deputy Commissioner is repaired, a protective lease shall be given exempting the well from assessment on the pure chahi crops irrigated by it. The period of such exemption shall commence from the agricultural year in which the well is brought into use, and shall be fixed by the Deputy Commissioner so as to recoup the owner for actual expenses incurred ; provided that it shall not exceed 15 years without the sanction of the Commissioner.

5. When a well, capable of use, is repaired, a protective lease shall be given, as under rule 4, provided that no exemption shall be given for an expenditure of less than Rs. 50 or for any expenses incurred in the repair or replacement of the wood-work of the well and that the period of exemption shall not exceed ten years without the sanction of the Commissioner.

APPENDIX VII.

No. 1—*Mulan Rakha or yearly Registers of area of District Multan (Tahsilwar) of new settlement, Multan District.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Name of Tahsil.	Total area.	Forests.	UNCULTIVATED OTHER THAN FORESTS.				CULTIVATED AREA.										WELL IRRIGATING LAND.			REMARKS.	
			Not available for culti- vation.	Unappropriated Government waste.	Available for cultivation.	Other.	Chabi.	Chabi-mahri.	Chabi-jhalari.	Mahri.	Jhalari.	Chabi-sailab.	Abi.	Sailab.	Barani.	Total.	New wells and old wells which have been made fit for use during the year.	Fallen in or become other- wise unfit for use during the year.	Total in use or fit for use.		Kacha wells, dhienklias and jhalars in use during the year.
Multan	507,708	189	50,728	56,743	119,023	3,419	174,359	7,833	63,209	380	10,831	1,852	18,808	394	281,075	62	63	In use 6,213 Not in use 551	6,764	711	
Shujabad	437,467	5,680	48,570	31,750	161,735	3,899	98,915	1,052	12,471	30	25,910	1,437	42,988	20	186,722	69	47	In use 4,584 Not in use 760	5,387	380	
Lodhran	676,348	2,711	67,575	191,621	200,318	5,449	138,865	1,385	42,244	893	6,690	1,595	11,715	476	211,063	90	121	In use 4,620 Not in use 767	5,387	724	
Malai	912,140	29,734	56,519	371,054	182,964	6,997	114,710	6,630	68,730	4,093	3,919	1,250	27,924	33,387	271,609	37	36	In use 3,227 Not in use 521	3,748	458	
Kabirwala	551,416	42,201	48,162	104,972	109,599	9,465	89,143	33,652	55,122	38,284	6,528	653	18,048	584	251,482	53	35	In use 4,396 Not in use 531	4,929	356	
Total of the District	3,085,079	80,525	266,754	756,150	776,699	29,232	619,532	58,552	241,787	9,250	49,777	6,987	119,513	34,861	1,204,951	311	305	In use 23,292 Not in use 3,180	25,422	2,629	

APPENDIX VIII.

No.	Date.	Subject.
SETTLEMENT OFFICER.		
18169	3rd October 1917	Mr. H. W. Emerson assumed charge of the Settlement and re-assessment operations on 1st October 1917.
18081	1st October 1917	All the powers of a Collector under the Punjab Land Revenue Act (except those under chapter VI) conferred upon Mr. Emerson.
18081	Ditto	All the powers of a Collector under the Punjab Tenancy Act similarly conferred.
18082	...	Mr. H. W. Emerson appointed a Magistrate of 1st class in the Multan District under the provisions of section 12 of the Code of Criminal Procedure, 1898.
18814	17th October 1917	Under section 49 (1), Act XVII of 1887, as amended by Act II of 1912, notifies that a general re-assessment of the land revenue of the Multan District, excluding those estates of the district which lie wholly within the irrigation boundary of the Lower Bari Doab Canal, but including those estates which lie partly within and partly without this boundary, is about to be undertaken.
18815	17th October 1917	Directs that the existing records of rights for the estates included in the Multan District, excluding those estates of the district which lie wholly within the irrigation boundary of the Lower Bari Doab Canal, but including those estates which lie partly within and partly without this boundary shall be specially revised.
16829-A.	8th July 1919	All the powers of a Collector under the Punjab Land Revenue Act (except those under Chapter VI) conferred upon Pandit Nand Lal Tikku, officiating Settlement Officer.
16829-A.	8th July 1919	All the powers of a Collector under the Punjab Tenancy Act similarly conferred.
18115	6th August 1919	Pandit Nand Lal Tikku, Extra Assistant Settlement Officer, assumed charge as officiating Settlement Officer on 8th July 1919; and
18116	6th August 1919	Mr. Emerson granted 4 months' combined leave and made over charge on 8th July 1919.
26068	26th November 1919	Mr. Emerson returned from combined leave and took over charge as Settlement Officer on 24th November 1919; and
26068	26th November 1919	Relieved Pandit Nand Lal Tikku, Extra Assistant Settlement Officer, the same date as officiating Settlement Officer.
EXTRA ASSISTANT SETTLEMENT OFFICERS.		
18169	3rd October 1917	Pandit Nand Lal, Extra Assistant Commissioner, Multan, resumed charge of Extra Assistant Settlement Officer on 1st October 1917.
22592	11th December 1918	Lala Diwan Chand, Nayyar, Extra Assistant Commissioner, resumed charge of 2nd Extra Assistant Settlement Officer on 30th November 1918.
21708-A.	30th November 1918	All the powers of a Collector under the Land Acquisition Act, I of 1894, conferred upon Lala Diwan Chand, Nayyar.
3975-G.	12th August 1920	Lala Diwan Chand, Nayyar, relinquished charge of 2nd Extra Assistant Settlement Officer, Multan Settlement, on the afternoon of 25th September 1920.

APPENDIX IX.

TOTAL EXPENDITURE ON RE-ASSESSMENT OPERATIONS.

Serial No.	Budget heading.					Actual expenditure.
						Rs.
1	Salary and settlement allowances of Gazetted Officers ...					9,250
2	Office Kanungos					14,469
3	Menial Establishment					32,749
4	Settlement Tahsildars					28,639
5	Settlement Naib-Tahsildars... ..					61,628
6	Field Kanungos, including field allowance					93,498
7	Temporary establishment					53,349
8	Travelling allowances of officers					8,851
9	Travelling allowance of establishment					23,042
10	Contingent expenditure, except stationery and lithography ...					74,011
11	Stationery					35,886
12	Lithography					814
	Total ...					5,26,186
	Estimated further expenditure					10,000

APPENDIX X.

Glossary of words used in the report of which the meaning is not expressed in the context.

<i>Vernacular names.</i>	<i>English meaning.</i>
Abi ...	Land watered from a stream or pond usually by lift.
Atraf ...	Sub-divisions of the estate of Multan proper.
Bachh ...	Distribution of revenue over holdings.
Bajra ...	Spiked millet (<i>Pennisetia spicata</i>).
Band ...	Dam.
Barani ...	Land dependent on rain.
Bar Barani ...	Cultivation in the Mailsi Bar, of which the revenue was formerly collected by a contractor.
Batai ...	Division of produce.
Beshi-nahri ...	A fluctuating water-advantage rate formerly taken on holdings not assessed to fixed canal revenue.
Bigha ...	Half an acre.
Chahi ...	Land irrigated by well water only.
Chahi-jhalari ...	Land irrigated by well water and also by lift from a canal.
Chahi-nahri ...	Land irrigated by well water as well as by canal.
Chahi-sailab ...	Land irrigated by well water as well as by receiving inundation from a river.
Chakbandi ...	Divisions of land into blocks for canal irrigation purposes.
Chari ...	Jowar grown as fodder.
Chher ...	A term formerly used to denote statute labour ; now used to denote unpaid labour employed on private canals.
Chitha Shajra Nasab ...	Rough copy of a genealogical tree.
Dhoras ...	Culturable land lying in depressions in the Jungle.
Girdawari ...	Harvest inspection.
Haq Shahi ...	Royalty.
Jamabandi ...	A village record-of-rights in land.
Jhalari ...	Land irrigated by lift from canal.
Jowar ...	Great millet (<i>Sorghum Vulgare</i>).
Jungle ...	Waste land owned by Government.
Kanal ...	One-eighth ($\frac{1}{8}$ th) of an acre.
Kanungo ...	An official who supervises the work of the Patwaris.
Karam ...	A lineal measure = $5\frac{1}{2}$ feet.
Kassi ...	A water channel.
Kharaba ...	Failed crops.
Kharif ...	The autumn harvest.
Khasra-Girdawari ...	Record of harvest inspections.
Khatauni ...	The loose sheet on which the entries for a holding are made at measurements.
Killa-bandi ...	Division of land into one-acre rectangular field.
Lambardars ...	Village headmen.
Lekha Mukhi ...	A form of mortgage in which the produce is not taken as interest, but credited to account.
Malikana ...	Revenue paid to Government for leases of Government land.
Mussavi ...	A mapping sheet.
Methra ...	Fenugreek.
Nahri ...	Land irrigated by canal.
Nautor ...	Land newly broken to cultivation.
Paggus ...	Small water channels.
Pamana Kat ...	Delineation of the limits of proprietary holdings by means of scale on the mapping sheets.
Patwari ...	An official who maintains the revenue records for a circle of villages.
Rabi ...	The spring harvest.
Riwaj-i-am ...	Customary law.
Sailab ...	Land which receives inundation from a river.
Sajji ...	Barilla.
Shajra ...	A village map.
Shajra i-nasab ...	A genealogical table of the owners of a village.
Taccavi ...	Money advanced by an owner to his tenants.
Tarmim ...	Amendment of settlement village maps.
Til ...	Sesamum.
Ussun ...	Brassica cruce.
Zabti ...	Crops for which customary cash rents are paid.
Zamindar ...	Agriculturist.
Zamindari ...	Private right in the land.
Zamindari Kharch ...	Proprietary due in addition to ordinary rents.
Wajib-ul-arz ...	Village administration paper.

APPENDIX XI.

WATER CHARGES ON THE HAJIWAH CANAL.

THE question of water charges applicable to the Hajiwah Canal as well as the claim

1. Settlement Officer Multan's letter No. 883, dated 1st November 1920. advanced by the Khakwani Khans for the refund of the
2. Commissioner Multan's letter No. 1581, dated 8th December 1920.
3. Financial Commissioner's letter No. 251-63-E.-1, dated 25th January 1921. profits derived from the whole canal are dealt with in the
4. Punjab Government letter No. 1989-S.-Rev., dated 4th July 1921.
5. Public Works Department, Irrigation Branch, Notification No. 1354-E.L., dated 16th November 1921. correspondence noted in the margin.

I. On all irrigation, within the original grant of land made in the year 1880 to the late Ghulam Kadir Khan, of lands, the proprietary right in which is, or may hereafter become vested—

- (a) in the son or the lineal descendants of the said Ghulam Kadir Khan, or
- (b) in Mian Muhammad Khan or Hafiz Muhammad Afzal Khan, the nephews of the said Ghulam Kadir Khan or their lineal descendants,

the rate per acre actually matured whether in the kharif or rabi shall be limited to the following rates, namely:—

	Rs. A. P.	per acre.
Flow	0 12 0	„
Lift	0 9 0	„

II. On all lands other than those mentioned in Rule I above the following water charges will be levied:—

Class.	Crop.	RATE PER ACRE.		Per Acre.
		Flow.	Lift.	
		Rs. A. P.	Rs. A. P.	
I	Rice, Garden, Pepper and Sugarcane ...	3 0 0	2 4 0	„
II	Cotton and Til ...	1 4 0	1 11 0	„
III	Other Kharif Crops ...	1 12 0	1 5 0	„
IV	Rabi crops ...	1 2 0	0 13 0	„

III. With effect from Kharif 1919 a quinquennial settlement of accounts will be made with the Khans so as to adjust any difference between (a) the proportional cost of clearance and management debitable to the Khans' own lands, and (b) the total amount of the water rates recovered from them. The relations of the Khans will pay the same water rates as the Khans, but they will not be entitled to any refund of the excess of the proceeds of the water rates over the cost of clearance and management nor will the Khans in the future be entitled to such excess, so far as the lands of their relations are concerned.

IV. The Khans will be paid a sum of Rs. 36,363 being the difference for the period 1900-19 between the water rates levied from them and the cost of clearance and management debitable to them.

V. In calculating the cost of clearance and management for the purposes of (a) above some addition should be made to represent the proportionate share of overhead charges. The Khans will at the end of the first 5 years be entitled to any excess there may be in (b) over (a) during the quinquennium and the rate for the following quinquennium should be fixed so as to make (a) and (b) as nearly as possible equivalent.

APPENDIX XII.

URBAN ASSESSMENT.

I. The subject of the Assessment of Urban lands in Multan was dealt with in the

1. Settlement Officer Multan's letter No. 1105, dated 17th January 1921. correspondence noted on the margin. The Urban lands
2. Commissioner Multan's letter No. C11-61-4, dated 28th January 1921. assessed are the six suburban estates of Multan City and
3. Senior Secretary to Financial Commissioner's letter No. 91-804-1, dated 9th March 1921. the adjacent estate of Qutabpur adjoining the Cantonment Railway Station.
4. Punjab Government Memorandum No. 11584-R., dated 12th April 1921.

II. Classification of lands for assessment purposes has been made in six groups. The first four of these contain all classes of built-on property differentiated according to locality; the fifth includes all potential building sites; the sixth includes all land occupied by mills at such a distance from the city as to exclude it from the first four groups.

III. The rates sanctioned are :—

Groups.	Rate per acre.	Area.	Demand.
			Rs.
I	Rs. 10 bungalow sites	40	400
	„ 40 other property	25	1,000
II	„ 30	65	1,050
III	„ 10 bungalow sites	50	500
	„ 20 other property	18	360
IV	„ 15	68	285
V	„ 12-8-0	65	812
VI	„ 10	70	700
Total ... ..	...	...	5,107

In applying the above rates the Settlement Officer was allowed to differentiate in each group according to the class of property within a range of Rs. 80 and Rs. 5 per acre.

IV. An area of $4\frac{1}{2}$ acres of land Nazul at the previous settlement and subsequently sold to private persons was exempted from assessment. Where the assessment on an individual plot in the first four groups is less than 4 annas nothing is payable; where the assessment is above 4 annas an assessment of 8 annas or a multiple of 8 annas has been imposed.

V. The assessment allowing for exemptions under Rule IV and under paragraph 3 of Appendix XV, Settlement Manual, is approximately Rs. 4,300. It was sanctioned with effect from Kharif 1921 for the same period as the settlement of the rest of the district.

APPENDIX XIII.

REVISION OF REVENUE ESTABLISHMENT.

Patwaris.—The total number of Patwaris and Assistant Patwaris in the Multan District, viz., 326 and 25 respectively was the same in 1920 as at the close of the last Settlement,

* 1. Senior Secretary to Financial Commissioners' letter No. 81-118-8, dated 7th June 1921, to Revenue Secretary to Government, Punjab.

2. Punjab Government letter No. 28958—Revenue, dated 21st November 1921.

but in view of the peculiar features of the land record and land revenue work in this district an addition of 20 patwaris and one assistant patwari was sanctioned* with effect from the 1st April 1922. The proportion of patwaris in each grade in this district was formerly 40 : 40 : 20, but the proportion in force for the Province as a whole, 20 : 40 : 40, has now been made applicable.

2. **Kanungos.**—In order to cope with the increase of work in connection with the large area of land under fluctuating assessment 7 more field kanungos have been added to the 21 previously on the permanent staff of the district from 1st April 1922 while the 4 temporary kanungos employed for 4 months each year have been abolished.

3. **Naib Tahsildars.**—An improvement has also been made in the superior supervising staff by the addition of 3 permanent Naib Tahsildars in place of the two temporary Naib Tahsildars annually employed in the past. Their duties will be confined as far as possible to land record and land revenue assessment work with such minimum of general executive work as the Deputy Commissioner, with the approval of the Commissioner, may find it indispensably necessary to give them. There are already 2 permanent Naib Tahsildars in each tahsil and the tahsils in which the assistance of a third Naib Tahsildar will generally be required will probably be Multan, Kabirwala and Mailsi; but it is for the Commissioner to post them to such tahsils as he thinks proper, provided that in no case should the number of Naib Tahsildars in any one tahsil at one time exceed three.

4. The resulting distribution is as follows :—

Tahsil.	Patwaris.	Assistant Patwaris.	Field Kanungos.	Naib-Tahsildars.	REMARKS.
Kabirwala	77	5	6	3	
Multan	81	5	7	3	
Shujabad	60	5	4	2	
Lodhran	65	5	5	2	
Mailsi	63	5	6	3	
District	346	25*	28	13	*Excludes one Assistant Patwari sanctioned to be employed as Mu-harrir for Office Kanungo, Multan.

APPENDIX XIV.

WASTE LAND LEASES.

1. The subject of long leases in the Multan district has been discussed in the correspondence noted in the margin.*

Settlement Officer's No. 895, dated 8th November 1920, and enclosures.
Commissioner's No. R.V.-L-3-113-7, dated 11th January 1921.
Financial Commissioner's No. 301-72-G-7, dated 12th May 1921.
Punjab Government Memo. No. 20891-Rev., dated 3rd August 1921.
Financial Commissioner's No. 301-722-G-10, dated 17th January 1922.
Punjab Government Memo. No. 5994-Rev., dated the 22nd February 1922.

2. The most important general question involved is that of the renewal clause in the leases. Following the advice of its legal advisers Government has held:—

- (i) That in the case of old leases containing the renewal clause, the lessee is entitled to renewal on expiry even when the conditions of the lease have not been complied with; resumption for breach of conditions being only permissible before the expiry of the lease.
- (ii) That in the case of old leases, the terms of which have not been fulfilled, renewed leases should be granted for a term of five years only with an adequate fixed assessment in addition to a fluctuating assessment with a *malikana* of 12 annas per rupee of total land revenue.

3. The following general principles have been laid down in dealing with these leases:—

- (a) That the renewal clause should be inserted in those leases which previously contained it, and that in all cases, except those specified in paragraph 2 (ii), the renewal will be for term of Settlement or until the introduction of weir-controlled irrigation, whichever period may be the shorter.
- (b) That no leases should be ordinarily given either of new areas or of confiscated grants: exceptions being allowed only under very special circumstances to be approved by the Financial Commissioner. A cent. per cent. *malikana* will be levied in such cases subject to possible exceptions.
- (c) That the rent on leases other than temporary will consist of land revenue and cesses assessed on the system in force on adjacent proprietary lands plus *malikana*.
- (d) That in the case of all leases not containing a renewal clause the new lease should (i) confer no right of renewal; (ii) contain an obligation that a certain proportion of the total area shall be cultivated; (iii) and should also include a further provision that wells to the number now existing shall be kept in working order.

4. The ultimate result of the Government orders on different forms of leases is as follows:—

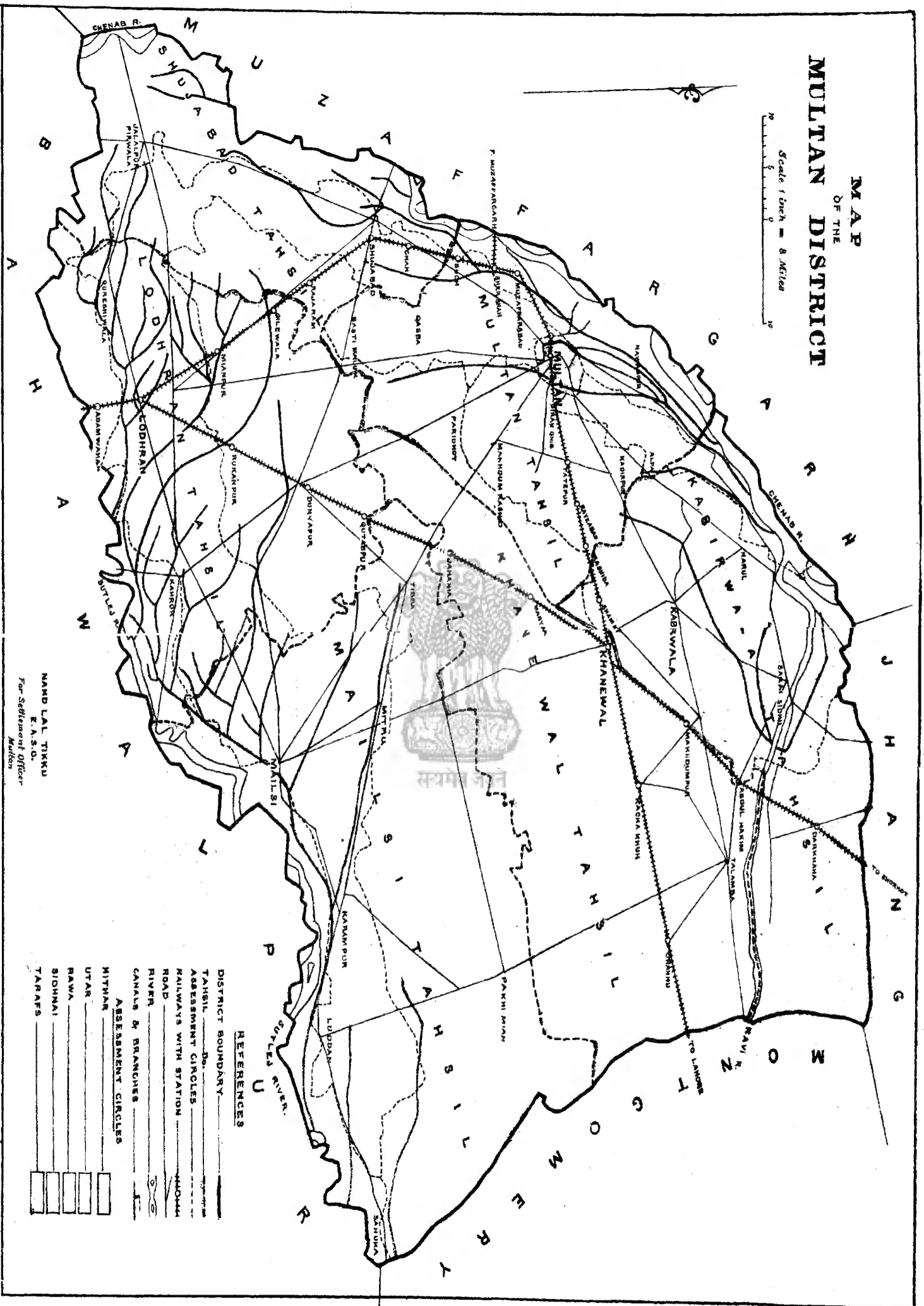
- (i) In the Sidhnaï leases the existing rates of *malikana* have been continued and Clause VIII will not appear in any renewed lease.
- (ii) In the Durana Langana leases, the *malikana* will continue to be fluctuating at Re. 1 per rupee of the new land revenue: the remissions covering *malikana* also in the case of existing protected wells, but not covering *malikana* in the case of new wells sunk after settlement.
- (iii) In the case of disappointed Jhelum grantees who have acquired occupancy rights and in all cases in which occupancy rights are subsequently acquired, the rate of *malikana* has been or will become fixed at 12 annas per rupee of land revenue.
- (iv) In the Khanewal Tahsil, areas outside irrigation limits have been given on yearly leases for the past few years by an arrangement between the Deputy Commissioner and the Colonization Officer.

This arrangement will continue, but it has been decided—

- (a) that when the leased area comes permanently within irrigation limits the yearly leases should not be renewed: the cases being dealt with by the Colonization Officer under the appropriate rules.
- (b) that a condition of one-third cultivation should be included in these yearly leases.
- (c) that *malikana* will be levied at the rate of 12 annas per rupee of land revenue on canal irrigated crops, and 8 annas per rupee of land revenue on other crops.

MAP OF THE MULTAN DISTRICT

Scale 1 inch = 8 Miles



REFERENCES

DISTRICT BOUNDARY	—
TAHSIL	Do.
ASSESSMENT CIRCLES	—
RAILWAYS WITH STATION	—
ROAD	—
RIVER	—
CANALS & BRANCHES	—
ASSESSMENT CIRCLES	—
MITWAR	—
UTAR	—
RAWA	—
SIDHAI	—
TARAFS	—